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## QUARTERLY MONITORING REPORT 1ST QUARTER 2001

L.E.CARPENTER & COMPANY  
WHARTON, NEW JERSEY

USEPA ID# NJD002168748

April 2001

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# Section 1

## Introduction

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RMT, Inc. (RMT), on behalf of our client, has prepared this Quarterly Monitoring Report for the L.E. Carpenter and Company (LEC) site ("the site" or "the subject site") located at 170 North Main Street, Wharton, New Jersey (Figure 1). Quarterly monitoring events are performed at the site to comply with paragraph 35 of the 1986 Administrative Consent Order (ACO) issued to LEC by the New Jersey Department of Environmental Protection (NJDEP). We provide a summary of activities completed during the first quarter of 2001, including routine quarterly groundwater monitoring and monthly free product recovery activities. In addition, this report includes summaries of additional site activities performed during first quarter of 2001, and activities scheduled for commencement during second quarter of 2001. We have certified this report in accordance with requirements outlined in N.J.A.C 7:26E (Appendix A).

RMT conducted the following tasks during the first quarter of 2001:

- Monthly mobile free product recovery using enhanced fluid recovery (EFR) or vacuum enhanced recovery (VER) techniques in accordance with the NJDEP approval letter dated August 20, 1997 (Ref. Section 2).
- Quarterly groundwater monitoring as required under the ACO (Ref. Sections 3 and 4).
- Ongoing preparation of responses to agency (NJDEP and USEPA) comments dated October 13, 2000 regarding the document entitled *Workplan to Evaluate Additional Technologies to Enhance On-Site Free Product Recovery* (RMT, August 15, 2000) (Ref. Section 5).
- Ongoing preparation of responses to agency (NJDEP and USEPA) comments dated December 21, 2000 regarding the document entitled *Workplan for Delineating and Characterizing Elevated Lead Concentrations in Soil* (RMT, September 6, 2000) (Ref. Section 5).
- Continued with the preparation of a workplan to supplement initial evaluations into whether natural attenuation (NA) is a potentially viable remedial alternative for groundwater impacted with dissolved phase contamination (Ref. Section 5).

We provide a discussion of these activities in the referenced sections.

## Section 2

# Monthly EFR Activities

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### 2.1 Introduction

In August 1997, the NJDEP approved the Remedial Action Plan (RAP) which described free product removal using enhanced fluid recovery (EFR) for the eastern portion of the subject site (east of the rail spur right-of-way). EFR is conducted by applying a vacuum to product recovery wells to primarily remove free phase product, in addition to limited volumes of contaminated groundwater and contaminant vapors within vadose zone and capillary fringe soils. As the result of increased aeration, this procedure enhances any natural biodegradation that may be occurring in the soil and groundwater. The locations of the twenty-eight (28) EFR wells purged during each monthly EFR event and all groundwater monitoring wells are shown in Figure 2.

RMT arranged performance of one monthly EFR event during the first quarter of 2001 on March 15, 2001. EFR events were not conducted in January and February due to adverse weather conditions (snow and ice), that made the EFR wells inaccessible. RMT coordinated measurement of the free product thickness in each recovery well (where applicable), followed by EFR. RMT's subcontractor, CEMCO, used the recorded free product measurements to determine the placement of the drop pipe that maximized free product recovery volumes. Table 1 lists apparent free product thickness measurements recorded during first quarter 2001. Severn Trent Services (groundwater monitoring subcontractor and certified laboratory) observed a measurable thickness of free phase product in 9 of the 72 locations monitored on February 27, 2001 (Ref. Table 6). Table 1 also provides a cumulative breakdown of EFR specific information such as minimum and maximum free product thickness levels (in feet), associated waste management costs, and extracted product (liquid and vapor phase) and groundwater volumes (in gallons) to date.

During first quarter 2001, EFR activities were conducted utilizing a Nortech, Inc. 55B vacuum head apparatus capable of producing a vacuum of 17-inches of mercury (in Hg) at 100 cubic feet per minute (cfm). This unit is connected to a fitted 55-gallon drum, and braced to a mobile 4-wheel drive vehicle. When compared to the previously utilized vacuum trucks, use of this system has enabled CEMCO to get closer to each individual EFR well head, minimizing potential losses in the system previously experienced due to the use of greater lengths of extraction hose, while maximizing the maneuverability of the drop pipe. Use of this system has also resulted in a more efficient EFR event, minimizing the volume of groundwater extracted.

The ratio of extracted groundwater to free product during the first quarter of 2001 was approximately 0.09 gallons/gallon. Before use of this method (November 1997 to December 1999), the ratio of extracted groundwater to free product was 4.7 gallons/gallon.

Once the extraction apparatus is full (approximately 55-gallons), the free product and limited volume of groundwater is transferred to the on-site 550-gallon aboveground storage tank (AST) equipped with secondary containment for satellite storage. The fluids generated during EFR events, including purged groundwater generated during groundwater monitoring activities, are transported off-site by Clean Venture, Inc. (US EPA ID No. NJ0000027193) and managed by Cycle Chem, Inc. (USEPA ID No. NJD002200046) at their facility located in Elizabeth, New Jersey. No waste disposal activities were conducted during 1<sup>st</sup> quarter 2001.

## 2.2 Apparent Free Product Trends

The following sections describe apparent product trends in the western, western-central, eastern-central, and eastern portions of the historic free product area. Apparent product refers to a volume (in gallons) of free product occupying the casings of each EFR well. Total apparent free product represents the sum of product volumes from each EFR well within each of the four segregated regions.

The apparent product thickness is not necessarily representative of the actual free product thickness or volume that exists within the formation. RMT previously evaluated actual free product thickness and volume in our report entitled *Free Product Volume Analysis* (May 2000). To facilitate description of the current distribution of free product, the zone of free product occurrence has been divided into four sub areas. These four areas from west to east are:

### 2.2.1 Western Region of Free Product

In the western portion of the free product area (EFR wells 1, 2, 3, 17, 18, 20, 21, and 28), there was an increase in the total volume of apparent free product measured during the first quarter of 2001. Apparent total free product volume increased from 3.22 gallons in December 2000 to 11.04 in March 2001. This significant increase in total free product volume is attributed to the extended recharge time each well experienced during this quarter as no EFR events took place in January or February. Most noticeable free product thickness increases were found in EFR Wells 18, 21 and 28. Aside from this quarter's free product thickness measurement which is inconsistent with historical results due to the missed January and February events, apparent free product volume in the western region appears to have decreased throughout 2000 (see Appendix B).

## **2.2.2 Western-Central Region of Free Product**

In the western-central portion of the free product area (EFR wells 4, 5, 6, 7, 19, 22, 23, 24, 25, 26, and 27), the total volume of apparent free product increased from 5.53 gallons in December 2000 to 11.38 gallons in March 2001. Again, this significant increase in free product volume is attributed to the extended recharge time each well experienced during this quarter as no EFR events took place in January or February. However, in general, apparent free product volume in the western-central region actually appears to be decreasing (see Appendix B).

## **2.2.3 Eastern-Central Region of Free Product**

The total volume of apparent free product increased only slightly in the eastern-central portion of the free product area (EFR wells 8, 9, 10, 11, 12, and 13) throughout first quarter 2001. Apparent free product volume increased from 5.71 gallons in December 2000 to 6.68 gallons in March 2001. In general, however apparent free product volume in the eastern-central region appears to be decreasing (see Appendix B).

## **2.2.4 Eastern Region of Free Product**

During fourth quarter 2000, there was no measurable free product in the eastern portion of the free product area (EFR wells 14, 15, and 16). In March 2001, 0.01 gallons of free product were measured in well 15.

## **2.2.5 Site Total Apparent Free Product Area**

The total apparent free product volume on the site, accounting for all 28 EFR wells, increased significantly over the course of the first quarter from 14.45 gallons in December 2000 to 29.09 gallons in March 2001. This increase can be attributed to extensive product recharge that occurred during January and February 2001 when EFR could not be conducted. With the exception of first quarter 2001, the total apparent free product trend chart indicates a steady decrease in the volume of apparent free product existing on-site throughout the use of the monthly EFR (21.60 gallons in November 1997 to 14.45 gallons in December 2000). A cumulative breakdown of free product thickness and apparent free product volumes specific to each region is presented in Table 2. Additionally, trend charts for each of the four free product regions, and for the site as a whole, that graphically display apparent free product volume fluctuations over time are presented in Appendix B. Figure 3 shows iso-thickness contours and the lateral extent of apparent free product on-site during 1<sup>st</sup> quarter 2001. This figure incorporates

apparent free product thickness measurements from both the groundwater monitoring event conducted by Severn Trent Services on February 27, 2001, and the March EFR event conducted by CEMCO on March 15, 2001.

## 2.3 Recovered Free Product Volume Estimations

After the completion of each EFR event, the total volume of extracted fluid was determined by gauging the 55-gallon vacuum head drum previously mentioned in section 2.1 with an oil/water interface probe. The drum was allowed to stabilize for one hour prior to gauging to allow for separation of emulsified product resulting from aggressive recovery. Gauging was conducted on a level surface and recorded thicknesses were converted to volumes based on a conversion of 1.65 gallons per inch of fluid thickness in the 55-gallon drum. Recovered liquid free product volume was determined by subtracting the volume of water from the total fluid volume collected in the 55-gallon drum. Vapor phase product volume was estimated based on vacuum head airflow (in cfm) and vented contaminant concentrations (in ppm) obtained during extraction at each EFR well. The volume (combined liquid and vapor phase) of free product extracted during each month's EFR event is presented in Table 3.

During first quarter 2001, we removed a total of 85.07 gallons of total fluids (measurable free product, product vapor, and groundwater) during the EFR event. Approximately 79.06 gallons were measurable free phase product as determined by vacuum head drum gauging and vapor phase volume calculations, and 6.01 gallons were groundwater. Since initiation in December 1997, site EFR activities have removed approximately 14,038 gallons of total fluids, of which, approximately 2,942 gallons was measurable free phase product. Reference Table 1 for a complete breakdown of EFR related information.

## Section 3

# Quarterly Groundwater Monitoring

Groundwater monitoring activities were conducted on February 27<sup>th</sup>, 2001, in accordance with the procedures contained in the NJDEP's *Field Sampling Procedures Manual* dated May 1992. Monitoring wells MW-4, MW-11D(R), MW-14S, MW-14I, MW-15S, MW-15I, MW-21, MW-22(R), MW-25(R) and WP-B7 were purged utilizing a peristaltic pump to remove at least three well volumes prior to sampling. Monitoring well MW-14S and well point WP-B7 were sampled during first quarter 2001 to establish baseline dissolved phase concentrations of contaminants of concern. During the well purge process, indicator parameters were monitored and recorded so that a representative sample of the formation water was collected for analysis. Monitoring well sample data for 1<sup>st</sup> quarter 2001 is presented as Appendix C. Once the wells were purged, samples were collected using Teflon coated plastic bailers. Monitoring wells were sampled and analyzed for benzene, toluene, ethylbenzene, xylenes (BTEX) and bis (2-ethylhexyl) phthalate (DEHP) per the current groundwater monitoring protocol presented as Table 4. Locations of the quarterly monitoring wells are shown on Figure 2.

A sample duplicate, a field blank and a trip blank were collected to satisfy quality control requirements. The trip blank was prepared by the laboratory and remained with the sample containers until the samples were returned to the laboratory. The duplicate was collected from monitoring well MW-11 (duplicate sample No. MW-11DD) and analyzed for bis (2-ethylhexyl) phthalate. The field blank was collected by pouring distilled water through a Teflon coated bailer to verify that the field equipment was not adversely impacting the samples and decontamination procedures were adequate. Any sampling equipment used at each well was decontaminated prior to each use utilizing a soap and water wash and distilled water rinse. DEHP was detected at 1.3 µg/L in the field blank, and at 0.6 µg/L in the trip blank, indicating a potential for laboratory contamination.

The results of the chemical analyses were compared to New Jersey Class IIa Groundwater Quality Standards (NJGWQS). The presence of BTEX and DEHP was not detected at concentrations above NJGWQS in samples collected from MW-4, MW-11(DR) and duplicate MW-11DD, MW14S, MW-14I, MW-15S, MW-15I, MW-21, and MW-25(R). Ethylbenzene was detected at a concentration of 1,900 µg/L at monitoring well MW-22(R), exceeding NJGWQS of 700 µg/L. A total xylenes concentration at well MW-22(R) of 9,000 µg/L also exceeded NJGWQS of 1000 µg/L.

Monitoring well MW-22(R) exhibited concentrations of total xylenes (9,000 µg/L) and ethylbenzene (1,900 µg/L), exceeding the NJGWQS of 40 µg/L and 1,000 µg/L respectively. However, concentrations of BTEX at downgradient monitoring location MW-25(R) have not exceeded NJGWQS since 1997, and contaminant concentration further downgradient at MW-21 have never exceeded NJGWQS since sampling began at this location in 1<sup>st</sup> quarter 1999. We will continue to closely monitor the contaminant concentration-trend at all three locations. Concentration trends for contaminants of concern detected at MW-22(R) and MW-25(R) are presented as Appendix D.

Agency comments outlined in the NJDEP letter dated April 5, 2001 regarding their review of the *4<sup>th</sup> Quarter 2000 Monitoring Report* (RMT, February 2001) requested that MW-11D(R) remain incorporated in the quarterly monitoring protocol; however groundwater collected from this location will be analyzed for DEHP only, beginning with 2<sup>nd</sup> quarter 2001. In addition, RMT has summarized the historical groundwater monitoring data, including the results from the first quarter 2001 sampling event, on Table 5. We have included the corresponding analytical laboratory reports in Appendix E. Severn Trent Services of Edison, New Jersey performed all site sampling activities and laboratory analyses.

## Section 4

# Water Table Elevations

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On February 27, 2001, Severn Trent Services (Severn) measured static groundwater levels from 72 different locations throughout the site (not including the EFR wells). RMT used these data to calculate groundwater elevations and evaluate the groundwater flow pattern in the shallow aquifer system (see Table 6).

Figure 4 displays the site-wide water-table surface, and indicates that groundwater flow direction in the shallow aquifer east of the rail spur is similar to that observed historically (generally toward the east) with localized water loss from the Rockaway River driving the flow. There is an anomalous groundwater high centered between the location of Former Building 14 and the concrete pad to the east. This mound may be caused by retardation of groundwater mound depletion by low permeability soils, or by a localized recharge event. Also exhibited in Figure 4 are the effects caused by the presence of the drainage ditch.

Figure 5 displays the elevations of the water-table surface in the MW19/Hot Spot 1 area (northwest corner of the subject site). We include each specific measured groundwater elevation and show it next to each of the wells. The data show that groundwater flow direction in the shallow aquifer underlying this area is generally towards the east-northeast and is probably driven by recharge from Washington Forge Pond. Elevations measured in wells MW19-8, MW19-7, MW19-6, and MW19-2 control the bending of the contours where they are roughly perpendicular to the regional interceptor sewer that is located under Ross Street. This supports data that show the regional sewer line intercepts and locally controls shallow groundwater flow. The pattern of groundwater flow in this area has remained the same throughout 2000, including during periods of groundwater elevation fluctuations.

# Section 5

## Site Investigation and Remedial Actions

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The following section briefly outlines additional activities and scopes of work performed at various on-site areas of environmental concern during 1<sup>st</sup> quarter 2001, and summarizes future activities associated with each area.

### **5.1 MW19/Hot Spot 1 Area**

Final agency comments dated January 5, 2001 regarding the *MW19/Hot Spot 1 Well Installation Workplan* (RMT, Inc., October 26, 2000) have been received. Concerns raised in the January 5, 2001 agency letter were addressed in the letter entitled *MW19/Hot Spot 1 Well Installation Workplan* (RMT, Inc., February 13, 2001). Approval to install the monitoring wells as outlined in both the workplan and the workplan addendum letter dated October 26, 2000 and February 13, 2001 respectively was provided in the NJDEP letter dated March 13, 2001. Installation of the wells in this area is anticipated during second quarter 2001.

### **5.2 Free Product Layer**

Final agency comments dated October 13, 2000 regarding the *Workplan to Evaluate Additional Technologies to Enhance On-Site Free Product Recovery* (RMT, Inc., August 15, 2000) have been received. RMT, on behalf of LEC, is in the process of preparing an addendum to the above-mentioned workplan to address all agency comments outlined in the October 13, 2000 NJDEP letter. RMT anticipates submittal of this addendum to both agencies for review during the second quarter of 2001.

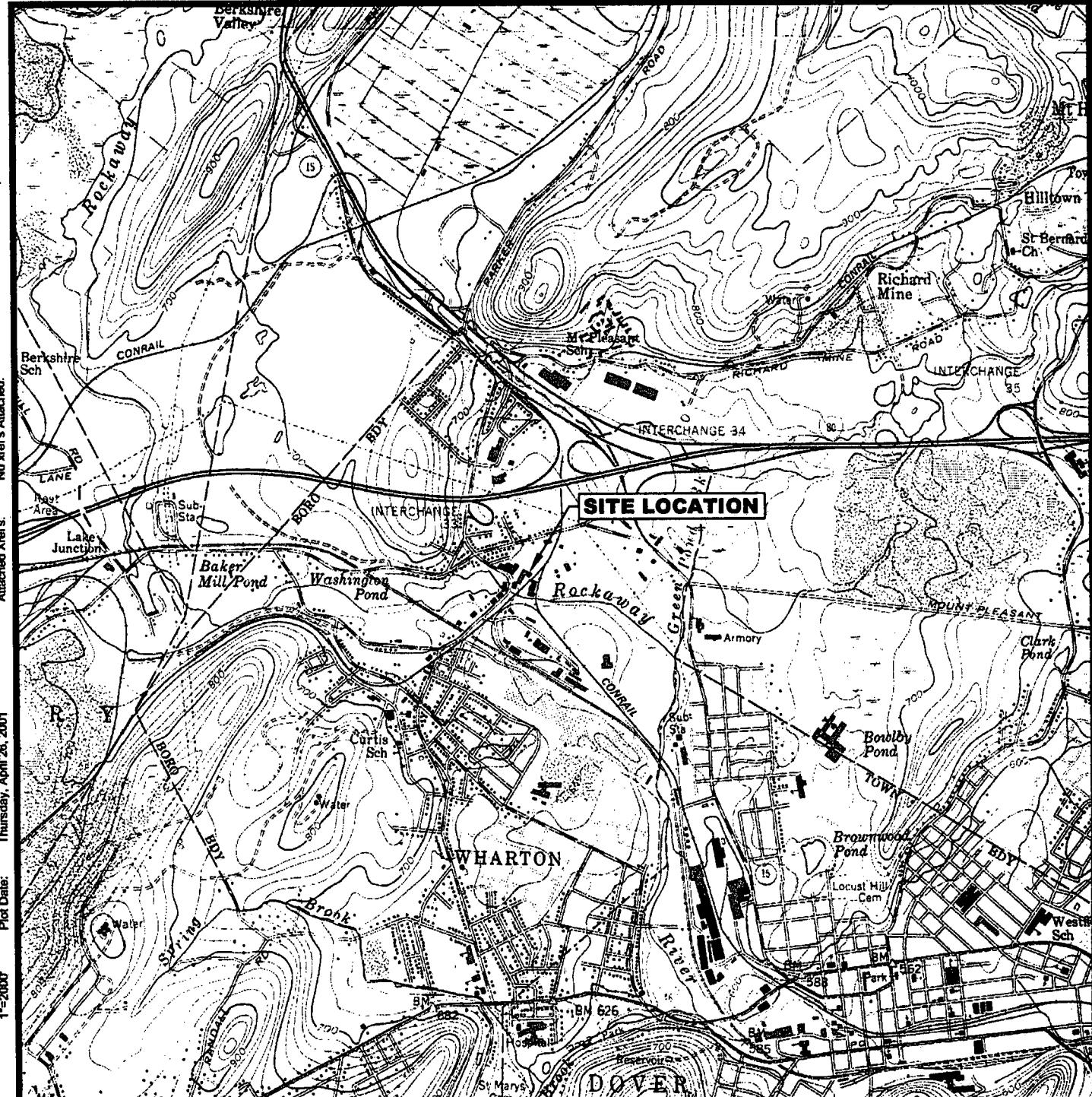
### **5.3 Hot Spot B & C**

Final EPA comments dated December 21, 2000 regarding the *Workplan for Delineating and Characterizing Elevated Lead Concentrations in Soil*, (RMT, Inc., September 6, 2000) have been received. RMT, on behalf of LEC, is in the process of evaluating the comments outlined in the December 21, 2000 letter from NJDEP.

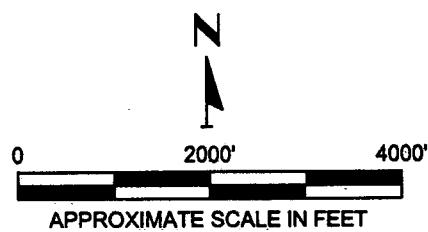
### **5.4 Monitored Natural Attenuation (MNA)**

RMT, on behalf of LEC, is continuing the evaluation of MNA as a viable remedial alternative to *ex situ* bioremediation and re-infiltration of dissolved phase groundwater impacted with BTEX

and DEHP (1994 Record of Decision Alternative No. 4). RMT submitted a report entitled *Evaluation of Remediation of Groundwater by Natural Attenuation* (May 2000) concluding that natural biodegradation of contaminants of concern (COCs) is occurring. As a result of the discussions during the August 4, 2000 conference call between LEC, RMT and the agencies, RMT is in the process of preparing a workplan to propose further groundwater investigation and continued monitoring to further establish the validity of this alternative at the LEC site. RMT anticipates submittal of this workplan during second quarter 2001.

**SOURCE**

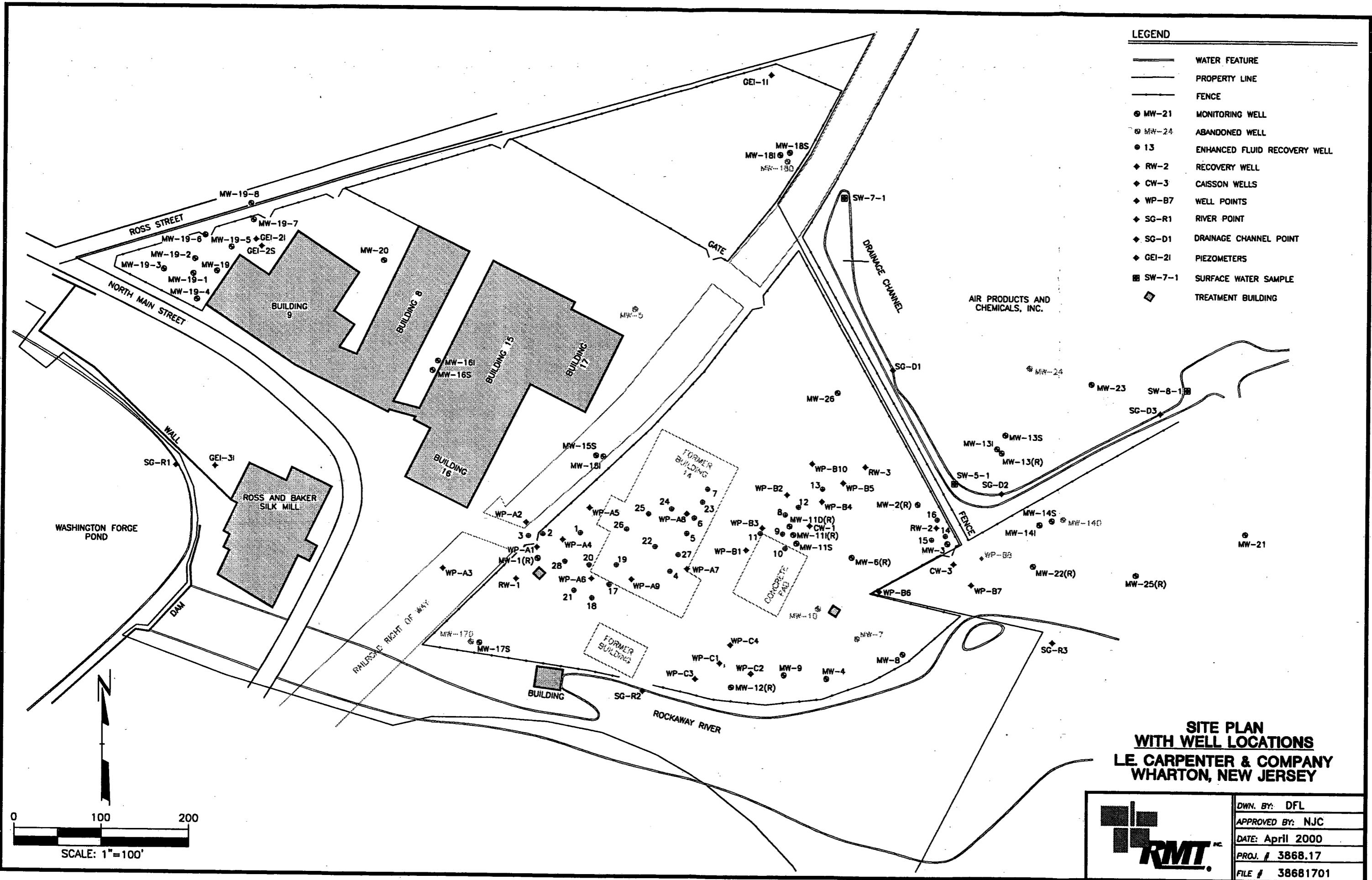
1. BASE MAP DEVELOPED FROM THE DOVER, NEW JERSEY 7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP, DATED 1954, PHOTOREVISED 1981.


**RMT** INC.

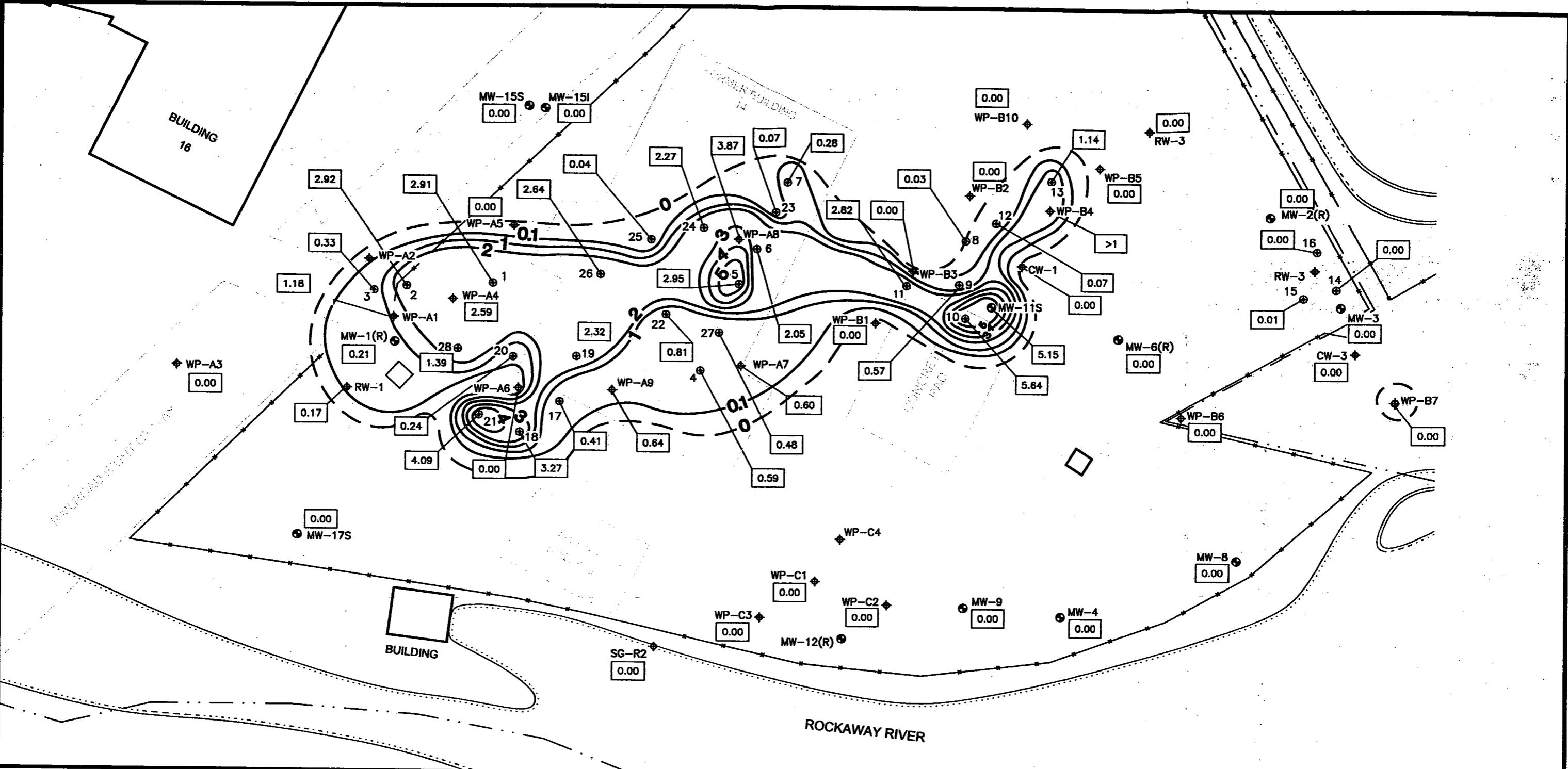
**LE CARPENTER**  
**WHARTON, NEW JERSEY**
**SITE LOCATION MAP**

DRAWN BY:	SJL
APPROVED BY:	NC
PROJECT NUMBER:	3868.23
FILE NUMBER:	38682300.DWG
DATE:	APRIL 2001

**FIGURE 1**



**PLOT DATA**  
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**Plot Options**  
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Plot Time: 2:04:52:30 PM  
Dwg Size: 24x28 Bytes  
Xref's: No xref's Attached.



## **LEGEND**

- |      |  |                              |
|------|--|------------------------------|
|      | SURFACE WATER FEATURE  | MW-13S ◉ MONITORING WELL     |
|      | PROPERTY LINE  | MW-24-9 ABANDONED WELL       |
|      | FENCE  | RW-2 ♦ RECOVERY WELL         |
| 1    | PRODUCT THICKNESS CONTOURS (FT)  | CW-3 ♦ CAISSON WELLS         |
| 0    | APPROXIMATE OUTER LIMIT OF FREE PRODUCT  | WP-B7 ♦ WELL POINTS WITH ELE |
| 0.00 | NO MEASURABLE PRODUCT  | ◊ TREATMENT BUILDING         |
|      | PRODUCT THICKNESS MEASURED IN WELL (FT)<br>(Measurements collected at monitoring wells and well points on February 27, 2001 by STL Edison)<br>(Measurements collected at EFR wells on March 15, 2001 by CEMCO) | 13 ◉ ENHANCED FLUID RECOVER  |
| 1.22 |  |                              |

A scale bar at the top of the page. It features a horizontal line with two tick marks. The first tick mark is labeled '0' below it. The second tick mark is labeled '50'' above it. Below the line, the words 'SCALE IN FEET' are printed in capital letters.

**L.E. CARPENTER  
WHARTON, NEW JERSEY**

## **EXTENT AND THICKNESS OF FREE PRODUCT FOR 1ST QUARTER 2001**

DRAWN BY:	SJL	PROJECT NUMBER:	<b>3868.23</b>
CHECKED BY:	DD	FILE NUMBER:	<b>38682301.DWG</b>
APPROVED BY:	DD	DATE:	<b>APRIL 2001</b>

**1143 HIGHLAND DRIVE, SUITE B  
ANN ARBOR, MI. 48108-2237**

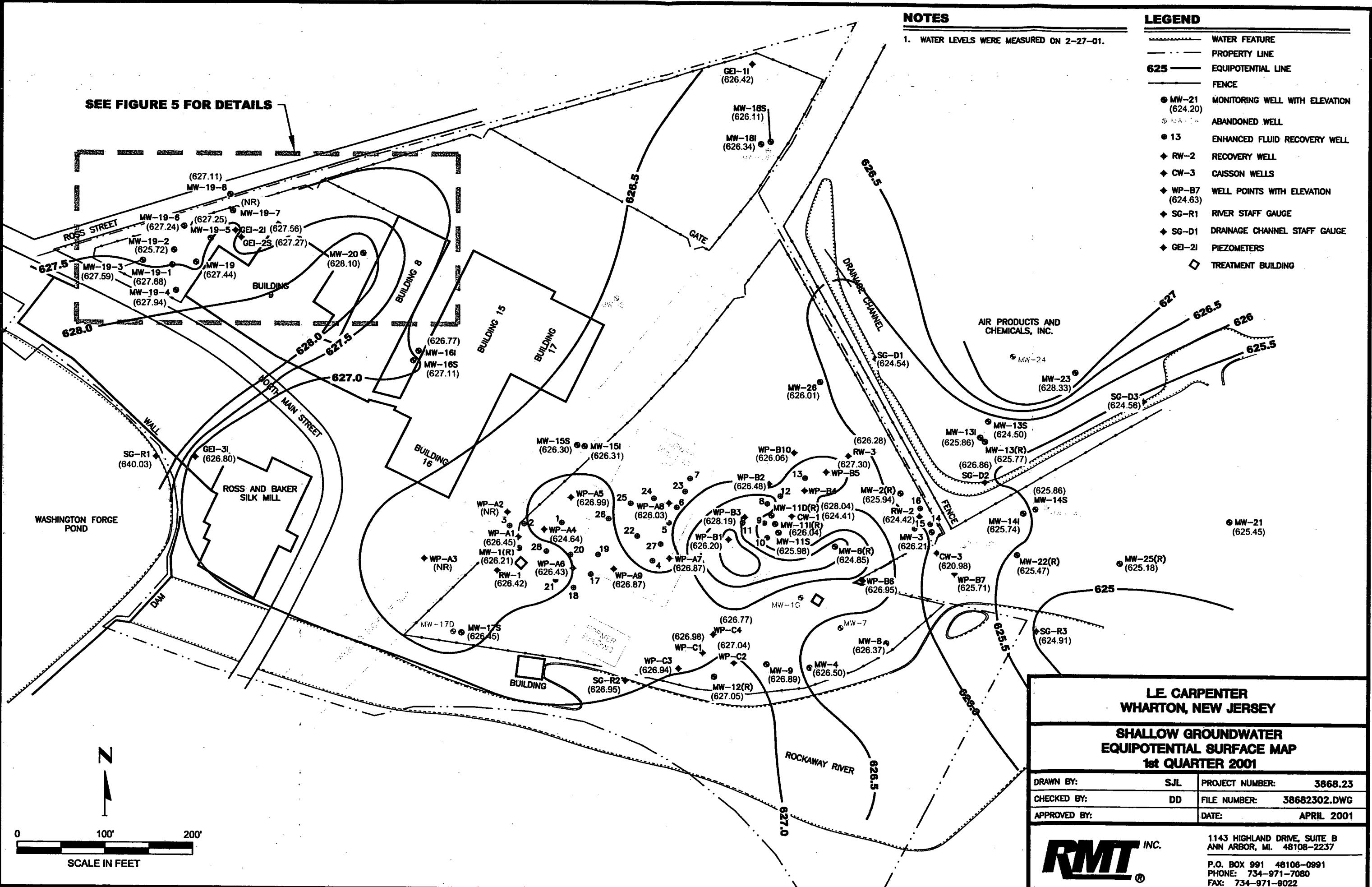
**RMT** INC.  
RMT<sup>®</sup>

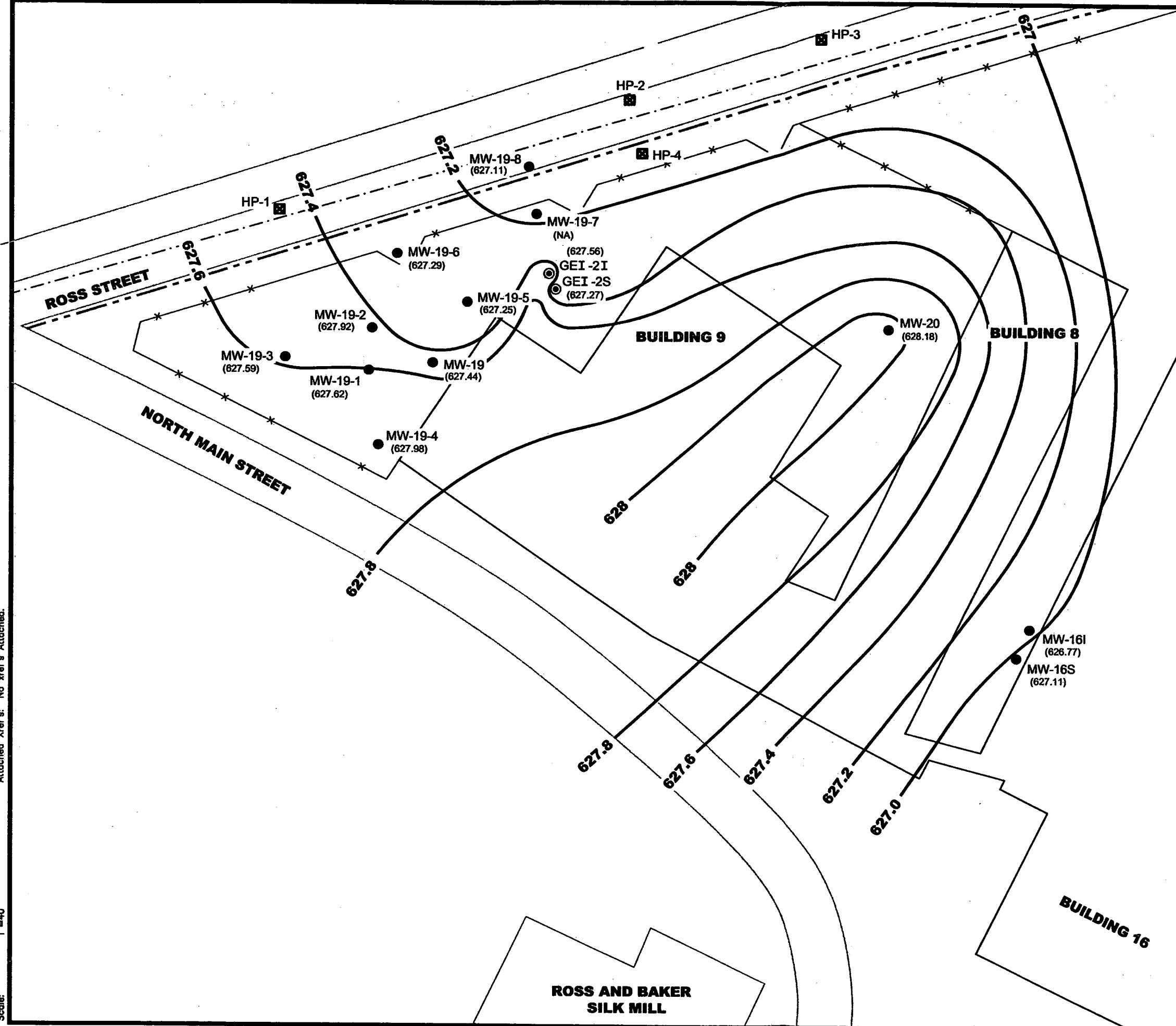
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Thursday, April 19, 2001  
07:05:57 70 AM  
Attached Xref's: No xrefs Attached.

Dwg Size: Plot Size:  
Plot Date: Attached Xref's:

Plot Name: Drawing Name:  
Operator Name: 1:100' 1:100'  
Plotter Name: Iridio 1°=100'  
Scal:

BLOT DATA



**LEGEND**

- APPROXIMATE PROPERTY LINE
- X — FENCE LINE
- - - APPROXIMATE LOCATION OF ROCKAWAY RIVER REGIONAL INTERCEPTOR SEWER
- 626 — GROUNDWATER ELEVATION CONTOUR
- MW-19-7 ● MONITORING WELL LOCATION AND NUMBER WITH GROUNDWATER ELEVATION
- GEI-2S ○ GEOPROBE INSTALLED PIEZOMETER LOCATION AND NUMBER WITH GROUNDWATER ELEVATION
- HP-3 ■ APPROXIMATE LOCATIONS OF HYDROPUCH SAMPLES
- (NA) NOT ACCESSABLE (SNOW COVERED)

**NOTES**

- GROUNDWATER ELEVATIONS BASED ON LEVELS MEASURED ON FEBRUARY 27, 2001.



0 40' 80'  
SCALE IN FEET

LE CARPENTER  
WHARTON, NEW JERSEY

**MW-19 HOT SPOT 1 GROUNDWATER ELEVATION CONTOURS FOR FEBRUARY 2001**

DRAWN BY:	SJL	PROJECT NUMBER:	3868.23
CHECKED BY:	DD	FILE NUMBER:	38682303.DWG
APPROVED BY:	DD	DATE:	APRIL 2001

**RMT** INC.  
RMT

1143 HIGHLAND DRIVE, SUITE B  
ANN ARBOR, MI. 48108-2237  
P.O. BOX 991 48106-0991  
PHONE: 734-971-7080  
FAX: 734-971-9022

**Table 1**  
**L.E. CARPENTER - Wharton, New Jersey**  
**Free Product Recovery - EFR Well # 1 - 28**

EFR Event Date	Development	EFR #1	EFR #2	EFR #3	EFR #4	EFR #5	EFR #6	EFR #7	EFR #8	EFR #9	EFR #10	EFR #11 <sup>(1)</sup>	EFR #12	EFR #13	EFR #14	EFR #15	
Well No.	November 21, 1997	December 9, 1997	January 7, 1998	January 22, 1998	February 17, 1998	March 13, 1998	March 27, 1998	April 24, 1998	May 29, 1998	June 30, 1998	July 31, 1998	August 24, 1998	September 17, 1998	October 22, 1998	November 20, 1998	December 18, 1998	
EFR-1	1.64	1.53	1.94	0.36	2.48	0.93	0.94	1.42	1.55	2.11	1.28	1.22	1.71	1.59	1.71	1.57	
EFR-2	1.55	1.50	1.86	0.06	2.20	2.96	2.92	2.65	2.44	1.78	1.12	1.09	1.21	1.29	1.51	1.41	
EFR-3	0.85	1.02	1.27	-	1.58	1.19	0.03	0.24	0.19	0.77	0.72	0.93	1.03	1.01	1.19	1.18	
EFR-4	1.03	2.27	0.54	0.07	0.30	-	-	-	-	0.03	0.38	1.23	2.40	2.17	1.75	1.79	
EFR-5	4.03	3.74	4.25	0.32	3.29	3.39	1.71	2.71	2.02	1.86	2.38	2.52	2.33	2.52	2.19	2.28	
EFR-6	0.72	1.00	1.24	-	2.27	1.71	1.17	2.23	1.55	1.56	1.96	1.56	1.42	1.25	1.29	1.38	
EFR-7	0.17	0.09	0.16	-	-	-	-	-	-	0.02	0.02	0.03	0.07	0.05	0.20	0.16	
EFR-8	0.00	0.00	0.00	-	0.08	-	-	-	-	0.03	0.04	0.08	0.13	0.09	0.07	0.03	
EFR-9	0.00	1.10	1.79	1.15	0.16	3.08	0.08	0.07	0.11	0.29	0.61	0.98	1.23	1.31	1.26	1.86	
EFR-10	5.20	5.80	6.42	2.34	7.47	7.06	6.05	6.71	5.47	5.68	4.94	4.52	4.34	4.38	3.98	3.99	
EFR-11	3.07	4.04	4.28	5.64	4.47	4.32	4.67	5.91	5.73	6.08	4.73	4.47	3.95	4.06	3.65	3.52	
EFR-12	0.04	0.03	0.00	-	0.07	-	-	-	-	0.02	0.28	0.22	0.28	0.15	0.29	0.17	
EFR-13	0.48	0.56	1.33	0.05	1.28	1.07	1.07	1.07	0.67	-	0.90	0.56	0.48	0.66	0.82	1.13	1.30
EFR-14	0.10	0.16	0.00	-	-	-	-	-	-	-	-	-	0.00	0.00	0.00	0.00	
EFR-15	0.09	0.12	0.27	-	0.06	-	-	-	-	0.03	0.02	0.03	0.03	0.12	0.12	0.32	
EFR-16	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-	-	0.00	0.00	0.00	
EFR-17	0.04	0.17	1.56	0.39	0.17	0.08	-	0.09	-	0.02	0.37	0.29	0.46	0.56	0.71	0.53	
EFR-18	0.10	0.10	0.09	-	-	-	-	-	-	0.01	0.08	0.14	0.48	0.68	0.98	1.08	
EFR-19	0.54	2.80	1.89	0.49	1.95	1.63	1.44	0.88	0.65	0.42	0.90	1.26	1.68	1.95	2.31	2.44	
EFR-20	0.40	0.34	0.95	0.47	0.27	-	-	0.04	0.24	0.37	0.65	0.63	0.79	1.24	1.85	2.11	
EFR-21	2.36	2.40	2.71	2.74	2.74	4.14	3.97	4.23	3.98	3.29	1.97	1.87	1.86	1.77	1.67	1.62	
EFR-22	3.78	4.10	0.05	4.81	3.40	4.69	3.42	1.82	1.22	0.96	2.86	2.87	2.97	2.83	2.58	2.27	
EFR-23	0.00	0.06	0.06	-	0.02	-	-	-	-	0.05	0.11	0.08	0.27	1.03	3.07	2.29	
EFR-24	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-	0.00	0.03	0.12	0.14	
EFR-25	2.95	3.00	3.55	0.26	4.15	3.11	0.72	0.82	0.79	0.78	0.60	0.41	0.29	0.41	1.33	1.58	
EFR-26	2.20	2.05	2.66	0.29	2.30	2.12	1.43	1.32	1.95	1.21	2.06	1.58	1.17	1.24	1.08	1.09	
EFR-27	0.15	0.02	2.71	0.02	0.74	-	0.03	-	-	0.02	0.33	0.45	1.49	0.54	0.47	0.51	
MIN (ft)	0.00	0.00	0.00	0.02	0.02	0.08	0.03	0.03	0.02	0.01	0.02	0.03	0.03	0.03	0.07	0.03	
MAX (ft)	5.20	5.80	6.42	5.64	7.47	7.06	6.05	6.71	5.73	6.08	4.94	4.52	4.34	4.38	3.98	3.99	
Average (ft)	1.20	1.44	1.55	1.17	1.92	2.79	2.21	2.01	1.94	1.25	1.22	1.23	1.36	1.34	1.47	1.48	
Total Free Product (ft)	33.69	40.30	43.36	19.94	44.05	44.68	33.10	36.24	31.07	31.16	30.38	30.73	33.90	34.92	38.30	38.36	
Total Standing Free Product Volume (gal)	21.60	25.83	27.79	12.78	28.24	28.64	21.22	23.23	19.92	19.47	19.70	22.04	22.70	24.90	24.93		
Estimated Total Free Product Removed (gal) <sup>(1)</sup> (Liquid and Vapor Phase Free Product Volume)	315.00	250.00	210.00	80.00	120.00	130.00	100.00	110.00	95.00	105.00	76.00	55.00	60.00	15.00	25.00	51.00	
Estimated Total Fluids Removed (gal) (Liquid Phase Free Product Volume plus Groundwater Extraction Volume) as of Jan 2000																	
Vapor Phase Free Product Extraction Volume (gal) as of Jan 2000																	
Liquid Phase Free Product Extraction Volume (gal) as of Jan 2000																	
Groundwater Extraction Volume (gal) per each EFR Event <sup>(1)</sup> as of Jan 2000																	
Total EFR Extraction Volume (gal) (Total Volume: free product + groundwater + product vapor)	2350.00	1410.00	376.00	256.00	314.00	300.00	339.00	403.00	390.00	561.00	211.00	220.00	329.00	212.00	120.00	256.00	
Estimated Volume Removed Resulting from Drum Purging (GW purge water) if applicable <sup>(1)</sup>						338	150	600	70	110	71	-	110	-	-	110	
Total Volume Removed from Site (gal) (Manifested volume) <sup>(1)</sup>	2,350	1,410	376	256	314	638	489	1,003	460	671	282	220	439	212	120	256	
Cumulative Total Free Product Removed (gal)	315	565	775	855	975	1,105	1,205	1,315	1,410	1,515	1,591	1,646	1,706	1,721	1,746	1,797	
Extraction, Transportation & Disposal Cost <sup>(2)</sup>	\$ 3,976.37	\$ 2,742.62	\$ 1,130.50	\$ 1,130.50	\$ 1,219.12	\$ 1,431.87	\$ 1,541.31	\$ 2,034.43	\$ 1,240.75	\$ 1,347.68	\$ 1,324.62	\$ 1,838.93	\$ 1,383.18	\$ 915.25	\$ 915.00	\$ 973.00	
Unit Cost per gal <sup>(3)</sup>	\$ 1.69	\$ 1.95	\$ 3.01	\$ 4.42	\$ 3.88	\$ 2.24	\$ 3.15	\$ 2.03	\$ 2.70	\$ 2.01	\$ 4.70	\$ 8.36	\$ 3.15	\$ 4.32	\$ 7.63	\$ 3.80	

## Notes:

Product thickness was determined prior to the EFR event.

gal = gallon

All EFR Wells are 4 inch in diameter

EPR events 1

**Table 1**  
**L.E. CARPENTER - Wharton, New Jersey**  
**Free Product Recovery - EFR Well # 1 - 28**

EFR Event Date Well No.	EFR #16 January 13, 1999 Feet of Product	EFR #17 February 18, 1999 Feet of Product	EFR #18 March 24, 1999 Feet of Product	EFR #19 April 19, 1999 Feet of Product	EFR #20 May 18, 1999 Feet of Product	EFR #21 June 22, 1999 Feet of Product	EFR #22 July 28, 1999 Feet of Product	EFR #23 <sup>(1)</sup> August 27, 1999 Feet of Product	EFR #24 September 22, 1999 Feet of Product	EFR #25 October 27, 1999 Feet of Product	EFR #26 November 30, 1999 Feet of Product	EFR #27 December 16, 1999 Feet of Product	EFR #28 January 28, 2000 Feet of Product	EFR #29 February 18, 2000 Feet of Product	EFR #30 March 24, 2000 Feet of Product	EFR #31 April 19, 2000 Feet of Product
EFR-1	0.53	1.79	3.68	1.13	1.09	1.15	1.49	1.27	1.94	1.63	1.47	1.20	1.22	0.85	1.86	1.59
EFR-2	0.95	1.40	2.42	1.46	1.22	0.92	1.21	1.00	0.63	1.35	1.28	1.40	0.06	1.04	2.25	2.00
EFR-3	1.14	1.01	1.63	0.36	0.25	0.86	0.68	1.03	0.74	0.69	0.47	0.02	0.51	0.07	0.08	0.09
EFR-4	0.73	0.10	0.14	0.08	0.05	0.03	0.44	0.99	0.51	0.11	0.03	0.58	0.51	0.48	0.11	0.11
EFR-5	2.68	3.47	6.15	2.65	2.61	2.66	2.66	1.57	1.77	3.23	2.99	1.27	2.95	2.46	2.91	2.54
EFR-6	0.49	0.84	0.88	0.61	1.07	1.16	1.51	0.91	0.15	0.86	0.63	0.33	1.07	0.77	0.29	0.31
EFR-7	0.02	0.04	0.04	0.07	0.02	0.08	0.28	0.05	0.01	0.07	0.04	0.47	0.15	0.02	0.35	0.01
EFR-8	0.12	0.00	0.03	0.03	0.03	0.09	0.39	0.27	0.09	0.13	0.05	0.11	0.05	0.06	0.08	0.03
EFR-9	0.74	0.49	0.06	0.11	0.32	0.49	1.16	0.56	0.41	0.28	0.10	0.15	0.13	0.08	0.19	0.02
EFR-10	3.68	5.79	5.52	4.97	4.23	3.71	3.63	2.47	3.02	5.18	3.95	3.07	4.50	3.55	3.50	4.50
EFR-11	2.42	4.69	2.84	2.02	2.48	3.28	2.78	1.57	1.93	3.20	3.11	1.07	3.44	4.95	2.41	2.95
EFR-12	0.04	0.11	0.05	0.02	0.02	0.10	0.30	0.20	0.03	0.09	0.67	0.01	0.03	0.49	0.46	0.10
EFR-13	0.22	1.19	0.15	0.49	0.50	0.44	1.33	1.01	0.74	0.78	0.57	0.26	0.36	0.34	0.45	0.47
EFR-14	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EFR-15	0.11	0.07	0.01	0.01	0.00	0.00	0.00	0.13	0.04	0.02	0.08	0.02	0.02	0.02	0.02	0.02
EFR-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EFR-17	0.26	0.08	0.06	0.06	0.08	0.12	0.39	0.36	0.10	0.06	0.24	0.25	0.11	0.32	0.04	0.16
EFR-18	0.56	0.11	-	0.06	0.16	0.46	0.96	1.37	0.61	0.36	0.77	0.05	0.20	0.05	0.12	0.04
EFR-19	1.83	1.68	0.52	0.44	0.52	1.10	2.05	2.02	0.51	1.54	0.84	0.69	1.67	1.73	0.25	0.60
EFR-20	0.65	1.33	0.88	0.43	0.89	0.87	1.59	1.86	0.47	1.92	1.36	0.75	1.08	2.58	0.64	0.42
EFR-21	1.21	1.43	2.62	2.35	1.49	1.46	1.57	1.04	1.01	2.32	1.40	1.70	1.92	1.34	3.04	2.86
EFR-22	2.06	0.84	0.34	0.95	1.39	1.93	1.47	1.41	0.17	2.22	1.76	0.53	0.82	0.58	0.09	0.16
EFR-23	1.55	0.91	0.47	0.22	0.25	0.45	2.13	1.03	0.12	0.53	0.64	0.24	0.23	0.31	0.46	0.06
EFR-24	0.38	0.06	0.00	0.00	0.00	0.08	0.08	0.05	0.00	0.00	0.04	0.13	0.11	0.07	0.58	0.02
EFR-25	1.05	1.75	1.19	1.08	0.76	0.54	1.74	1.48	0.21	0.39	0.19	0.05	0.31	0.39	0.58	0.21
EFR-26	0.73	0.55	0.45	0.75	1.29	1.28	1.23	0.72	0.29	0.52	0.94	0.59	1.54	1.10	1.33	1.68
EFR-27	0.09	0.12	0.00	0.00	0.02	0.03	0.17	0.21	0.06	0.01	0.01	0.01	0.02	0.14	0.20	0.01
EFR-28	1.03	1.29	1.71	1.65	1.46	1.25	1.67	1.78	0.38	2.19	0.96	1.42	1.33	1.00	2.30	2.42
MIN (ft)	0.02	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MAX (ft)	3.68	5.79	6.15	4.97	4.23	3.71	3.63	2.47	3.02	5.18	3.95	3.07	4.50	4.95	3.50	4.50
Average (ft)	0.97	1.25	1.22	0.79	0.79	0.88	1.18	0.94	0.57	1.06	0.88	0.58	0.87	0.89	0.88	0.84
Total Free Product (ft)	25.27	31.14	31.84	22.00	22.20	24.54	33.11	26.36	15.94	29.68	24.59	16.37	24.34	24.79	24.62	23.38
Total Standing Free Product Volume (gal)	16.43	20.24	20.70	14.30	14.43	15.95	21.52	17.13	10.36	19.29	15.98	10.64	15.82	16.11	16.00	15.20
Estimated Total Free Product Removed (gal) <sup>(1)</sup> (Liquid and Vapor Phase Free Product Volume)	23.00	74.00	40.00	59.24	47.20	38.51	54.48	36.00	44.00	54.73	44.79	49.34	43.52	51.66	48.14	45.46
Estimated Total Fluids Removed (gal) (Liquid Phase Free Product Volume plus Groundwater Extraction Volume) as of Jan 2000													40.93	46.21	52.80	41.26
Vapor Phase Free Product Extraction Volume (gal) as of Jan 2000													6.55	7.93	10.19	5.65
Liquid Phase Free Product Extraction Volume (gal) as of Jan 2000													36.97	43.73	37.95	39.61
Groundwater Extraction Volume (gal) per each EFR Event <sup>(1)</sup> as of Jan 2000													3.96	2.48	14.85	1.65
Total EFR Extraction Volume (gal) (Total Volume; free product + groundwater + product vapor)	234.00	496.00	683.00	904.76	360.00	564.26	725.54	298.00	239.00	265.00	249.07	350.00	47.48	54.14	62.99	47.11
Estimated Volume Removed Resulting from Drum Purging (GW purge water) if applicable <sup>(2)</sup>		235	-	139	-	-	374	-	-	199	82	-				357
Total Volume Removed from Site (gal) (Manifested volume) <sup>(3)</sup>	234	733	683	1,044	360	564	1,100	298	239	464	331	350				538
Cumulative Total Free Product Removed (gal)	1,820	1,894	1,934	1,993	2,040	2,079	2,133	2,169	2,213	2,268	2,313	2,362	2,406	2,457	2,50	

**Table 1**  
**L.E. CARPENTER - Wharton, New Jersey**  
**Free Product Recovery - EFR Well # 1 - 28**

EFR Event Date	EFR #32 May 18, 2000	EFR #33 June 16, 2000	EFR #34 July 18, 2000	EFR #35 August 17, 2000	EFR #36 September 18, 2000	EFR #37 October 25, 2000	EFR #38 November 17, 2000	EFR #39 December 15, 2000	EFR #40 March 15, 2001	EFR AVERAGES	EFR TOTALS
Well No.	Feet of Product	Feet of Product	Feet of Product	Feet of Product	Feet of Product	Feet of Product	Feet of Product	Feet of Product	Feet of Product		
EFR-1	1.54	2.10	1.51	1.26	1.53	1.00	1.07	1.14	2.91		
EFR-2	1.64	1.89	1.40	0.36	1.08	0.97	1.09	0.76	2.92		
EFR-3	0.62	1.02	0.25	0.02	0.08	0.44	0.43	0.46	0.33		
EFR-4	0.41	0.22	0.05	0.02	0.02	0.02	0.05	0.21	0.59		
EFR-5	1.84	2.34	1.99	1.69	1.57	2.74	2.47	2.76	5.95		
EFR-6	0.49	0.27	0.54	0.29	0.55	0.83	0.79	0.96	2.05		
EFR-7	0.02	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.28		
EFR-8	0.05	0.03	0.02	0.01	0.01	4.26	0.02	0.06	0.09		
EFR-9	0.06	0.06	0.12	0.16	0.08	0.02	0.50	0.77	0.57		
EFR-10	1.36	2.50	3.09	0.75	2.76	3.88	3.27	4.05	5.64		
EFR-11	2.93	2.49	4.12	0.79	4.73	0.16	4.00	3.73	2.82		
EFR-12	0.19	0.01	0.01	0.00	0.03	0.11	0.04	0.02	0.07		
EFR-13	0.69	0.55	0.73	0.49	0.22	0.25	0.09	0.15	1.14		
EFR-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EFR-15	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01		
EFR-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EFR-17	0.65	0.04	0.01	0.02	0.09	0.06	0.36	0.01	0.41		
EFR-18	0.32	0.01	0.06	0.16	0.08	0.31	0.31	0.20	3.27		
EFR-19	0.98	0.17	0.63	0.34	0.22	0.87	0.59	1.42	2.32		
EFR-20	0.54	0.33	0.30	0.39	0.45	0.54	0.11	0.37	0.24		
EFR-21	2.47	3.02	2.09	1.62	2.75	1.79	1.65	1.37	4.09		
EFR-22	0.05	0.05	0.01	0.18	0.06	0.53	2.14	1.50	0.81		
EFR-23	0.06	0.01	0.13	0.03	0.07	0.07	0.08	0.39	0.07		
EFR-24	0.03	0.00	0.00	0.00	0.01	0.01	0.01	0.04	0.27		
EFR-25	0.10	0.03	0.10	0.03	0.10	0.19	0.12	0.10	0.04		
EFR-26	2.02	1.44	2.25	1.38	2.01	2.05	1.78	1.10	2.64		
EFR-27	0.03	0.04	0.01	0.01	0.15	0.01	0.01	0.01	0.48		
EFR-28	1.81	2.68	1.72	2.48	2.02	1.39	1.36	0.64	2.81		
MIN (ft)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
MAX (ft)	2.93	3.02	4.12	2.48	4.73	4.26	4.00	4.05	5.95		
Average (ft)	0.75	0.76	0.76	0.45	0.74	0.80	0.80	0.79	1.60		
Total Free Product (ft)	20.91	21.30	21.14	12.49	20.67	22.51	22.35	22.23	44.76		
Total Standing Free Product Volume (gal)	13.59	13.85	13.74	8.12	13.44	14.63	14.53	14.45	29.09		
Estimated Total Free Product Removed (gal) <sup>(1)</sup> (Liquid and Vapor Phase Free Product Volume)	45.50	43.66	46.38	22.05	25.07	44.12	35.36	49.32	79.06	72	2,942
Estimated Total Fluids Removed (gal) (Liquid Phase Free Product Volume plus Groundwater Extraction Volume) as of Jan 2000	40.18	39.44	40.43	20.13	21.05	38.78	31.36	43.73	74.01	41	456
Vapor Phase Free Product Extraction Volume (gal) as of Jan 2000	6.31	5.05	7.60	5.22	5.26	6.58	5.65	6.42	11.06	7	79
Liquid Phase Free Product Extraction Volume (gal) as of Jan 2000	39.19	38.61	38.78	16.83	19.81	37.54	29.71	42.90	68.00	38	422
Groundwater Extraction Volume (gal) per each EFR Event <sup>(7)</sup> as of Jan 2000	0.99	0.83	1.65	3.30	1.24	1.24	1.65	0.83	6.01	3	41
Total EFR Extraction Volume (gal) (Total Volume: free product + groundwater + product vapor)	46.49	44.49	48.03	25.35	26.31	45.36	37.01	50.15	85.07	342	14,038
Estimated Volume Removed Resulting from Drum Purging (GW purge water) if applicable <sup>(9)</sup>			110			134				199	3,189
Total Volume Removed from Site (gal) (Manifested volume) <sup>(8)</sup>			250			225				In Satellite Storage <sup>(4)</sup>	545
Cumulative Total Free Product Removed (gal)	2,597	2,640	2,687	2,709	2,734	2,778	2,813	2,863	2,942	N/A	2,942
Extraction, Transportation & Disposal Cost <sup>(2)</sup>	\$		795.13	\$		762.31				\$ 1,465.87	\$ 45,441.98
Unit Cost per gal <sup>(3)</sup>	\$		3.18	\$		3.39				\$ 3.44	N/A

**TABLE 2**  
**L.E. CARPENTER - WHARTON, NEW JERSEY**  
**REGIONAL APPARENT FREE PRODUCT TRENDS**

	EFR Event Date	21-Nov-97	09-Dec-97	07-Jan-98	16-Feb-98	16-Mar-98	27-Mar-98	24-Apr-98	29-May-98	30-Jun-98	31-Jul-98	24-Aug-98	17-Sep-98
<b>Western Region of Free Product</b>	EFR-1	1.64	1.53	1.94	2.48	0.93	0.94	1.42	1.55	2.11	1.28	1.22	1.71
	EFR-2	1.55	1.50	1.86	2.20	2.96	2.92	2.65	2.44	1.78	1.12	1.09	1.21
	EFR-3	0.85	1.02	1.27	1.58	1.19	0.03	0.24	0.19	0.77	0.72	0.93	1.03
	EFR-17	0.04	0.17	1.56	0.17	0.08	0.00	0.09	0.00	0.02	0.37	0.29	0.46
	EFR-18	0.10	0.10	0.09	0.00	0.00	0.00	0.00	0.00	0.01	0.08	0.14	0.48
	EFR-20	0.40	0.34	0.95	0.27	0.00	0.00	0.04	0.24	0.37	0.65	0.63	0.79
	EFR-21	2.36	2.40	2.71	2.74	4.14	3.97	4.23	3.98	3.29	1.97	1.87	1.86
	EFR-28	2.20	2.30	1.78	2.60	3.20	3.48	4.40	3.16	2.61	1.47	1.73	1.69
	Total Free Product (ft)	9.14	9.36	12.16	12.04	12.50	11.34	13.07	11.56	10.96	7.66	7.90	9.23
	Total Free Product (gal)	5.86	6.00	7.79	7.72	8.01	7.27	8.38	7.41	7.03	4.91	5.06	6.00
<b>West-Central Region of Free Product</b>	EFR-4	1.03	2.27	0.54	0.30	0.00	0.00	0.00	0.00	0.03	0.38	1.23	2.40
	EFR-5	4.03	3.74	4.25	3.29	3.39	1.71	2.71	2.02	1.86	2.38	2.52	2.33
	EFR-6	0.72	1.00	1.24	2.27	1.71	1.17	2.23	1.55	1.56	1.96	1.56	1.42
	EFR-7	0.17	0.09	0.16	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.03	0.07
	EFR-19	0.54	2.80	1.89	1.95	1.63	1.44	0.88	0.65	0.42	0.90	1.26	1.68
	EFR-22	3.78	4.10	0.05	3.40	4.69	3.42	1.82	1.22	0.96	2.86	2.87	2.97
	EFR-23	0.00	0.06	0.06	0.02	0.00	0.00	0.00	0.00	0.05	0.11	0.08	0.27
	EFR-24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00
	EFR-25	2.95	3.00	3.55	4.15	3.11	0.72	0.82	0.79	0.78	0.60	0.41	0.29
	EFR-26	2.20	2.05	2.66	2.30	2.12	1.43	1.32	1.95	1.21	2.06	1.58	1.17
	EFR-27	0.15	0.02	2.71	0.74	0.00	0.00	0.03	0.00	0.02	0.33	0.45	1.49
	Total Free Product (ft)	15.57	19.13	17.11	18.42	16.65	9.89	9.81	8.18	6.91	11.60	11.99	14.09
	Total Free Product (gal)	9.98	12.26	10.97	11.81	10.67	6.34	6.29	5.24	4.43	7.44	7.69	9.16
<b>East-Central Region of Free Product</b>	EFR-8	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.03	0.04	0.08	0.13
	EFR-9	0.00	1.10	1.79	0.16	3.08	0.08	0.07	0.11	0.29	0.61	0.98	1.23
	EFR-10	5.20	5.80	6.42	7.47	7.06	6.05	6.71	5.47	5.68	4.94	4.52	4.34
	EFR-11	3.07	4.04	4.28	4.47	4.32	4.67	5.91	5.73	6.08	4.73	4.47	3.95
	EFR-12	0.04	0.03	0.00	0.07	0.00	0.00	0.00	0.02	0.28	0.22	0.28	0.24
	EFR-13	0.48	0.56	1.33	1.28	1.07	1.07	0.67	0.00	0.90	0.56	0.48	0.66
	Total Free Product (ft)	8.79	11.53	13.82	13.53	15.53	11.87	13.36	11.33	13.26	11.10	10.81	10.55
	Total Free Product (gal)	5.63	7.39	8.86	8.67	9.95	7.61	8.56	7.26	8.50	7.12	6.93	6.86
<b>Eastern Region of Free Product</b>	EFR-14	0.10	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	EFR-15	0.09	0.12	0.27	0.06	0.00	0.00	0.00	0.00	0.03	0.02	0.03	0.03
	EFR-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Free Product (ft)	0.19	0.28	0.27	0.06	0.00	0.00	0.00	0.00	0.03	0.02	0.03	0.03
	Total Free Product (gal)	0.12	0.18	0.17	0.04	0.00	0.00	0.00	0.00	0.02	0.01	0.02	0.02
<b>TOTAL APPARENT FREE PRODUCT VOLUME (GAL)</b>		21.60	25.83	27.79	28.24	28.64	21.22	23.23	19.92	19.97	19.47	19.70	22.03

**TABLE 2**  
**L.E. CARPENTER - WHARTON, NEW JERSEY**  
**REGIONAL APPARENT FREE PRODUCT TRENDS**

EFR Event Date	22-Oct-98	20-Nov-98	18-Dec-98	13-Jan-99	17-Feb-99	23-Mar-99	19-Apr-99	18-May-99	22-Jun-99	28-Jul-99	27-Aug-99	22-Sep-99
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Western Region of Free Product	EFR-1	1.59	1.71	1.57	0.53	1.79	3.68	1.13	1.09	1.15	1.49	1.27	1.94
	EFR-2	1.29	1.51	1.41	0.95	1.40	2.42	1.46	1.22	0.92	1.21	1.00	0.63
	EFR-3	1.01	1.19	1.18	1.14	1.01	1.63	0.36	0.25	0.86	0.88	1.03	0.74
	EFR-17	0.56	0.71	0.53	0.26	0.08	0.06	0.06	0.08	0.12	0.39	0.36	0.10
	EFR-18	0.68	0.98	1.08	0.56	0.11	0.00	0.06	0.16	0.46	0.96	1.37	0.61
	EFR-20	1.24	1.85	2.11	0.65	1.33	0.88	0.43	0.89	0.87	1.59	1.86	0.47
	EFR-21	1.77	1.67	1.62	1.21	1.43	2.62	2.35	1.49	1.46	1.57	1.04	1.01
	EFR-28	1.83	1.79	1.74	1.03	1.29	1.71	1.65	1.46	1.25	1.67	1.78	0.38
	Total Free Product (ft)	9.97	11.41	11.24	6.33	8.44	13.00	7.50	6.64	7.09	9.76	9.71	5.88
	Total Free Product (gal)	6.48	7.42	7.31	4.11	5.49	8.45	4.88	4.32	4.61	6.34	6.31	3.82

West-Central Region of Free Product	EFR-4	2.17	1.75	1.79	0.73	0.10	0.14	0.08	0.05	0.03	0.44	0.99	0.51
	EFR-5	2.52	2.19	2.28	2.68	3.47	6.15	2.65	2.61	2.66	2.66	1.57	1.77
	EFR-6	1.25	1.29	1.38	0.49	0.84	0.88	0.61	1.07	1.16	1.51	0.91	0.15
	EFR-7	0.05	0.20	0.16	0.02	0.04	0.04	0.07	0.02	0.08	0.28	0.05	0.01
	EFR-19	1.95	2.31	2.44	1.83	1.68	0.52	0.44	0.52	1.10	2.05	2.02	0.51
	EFR-22	2.83	2.58	2.27	2.06	0.84	0.34	0.95	1.39	1.93	1.47	1.41	0.17
	EFR-23	1.03	3.07	2.29	1.55	0.91	0.47	0.22	0.25	0.45	2.13	1.03	0.12
	EFR-24	0.03	0.12	0.14	0.38	0.06	0.00	0.00	0.00	0.08	0.08	0.05	0.00
	EFR-25	0.41	1.33	1.58	1.05	1.75	1.19	1.08	0.76	0.54	1.74	1.48	0.21
	EFR-26	1.24	1.08	1.09	0.73	0.55	0.45	0.75	1.29	1.28	1.23	0.72	0.29
	EFR-27	0.54	0.47	0.51	0.09	0.12	0.00	0.00	0.02	0.03	0.17	0.21	0.06
	Total Free Product (ft)	14.02	16.39	15.93	11.61	10.36	10.18	6.85	7.98	9.34	13.76	10.44	3.80
	Total Free Product (gal)	9.11	10.65	10.35	7.55	6.73	6.62	4.45	5.19	6.07	8.94	6.79	2.47

East-Central Region of Free Product	EFR-8	0.09	0.07	0.03	0.12	0.00	0.03	0.03	0.03	0.09	0.39	0.27	0.09
	EFR-9	1.31	1.26	1.86	0.74	0.49	0.06	0.11	0.32	0.49	1.16	0.56	0.41
	EFR-10	4.38	3.98	3.99	3.68	5.79	5.52	4.97	4.23	3.71	3.63	2.47	3.02
	EFR-11	4.06	3.65	3.52	2.42	4.69	2.84	2.02	2.48	3.28	2.78	1.57	1.93
	EFR-12	0.15	0.29	0.17	0.04	0.11	0.05	0.02	0.02	0.10	0.30	0.20	0.03
	EFR-13	0.82	1.13	1.30	0.22	1.19	0.15	0.49	0.50	0.44	1.33	1.01	0.74
	Total Free Product (ft)	10.81	10.38	10.87	7.22	12.27	8.65	7.64	7.58	8.11	9.59	6.08	6.22
	Total Free Product (gal)	7.03	6.75	7.07	4.69	7.98	5.62	4.97	4.93	5.27	6.23	3.95	4.04

Eastern Region of Free Product	EFR-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	EFR-15	0.12	0.12	0.32	0.11	0.07	0.01	0.01	0.00	0.00	0.00	0.13	0.04
	EFR-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Free Product (ft)	0.12	0.12	0.32	0.11	0.07	0.01	0.01	0.00	0.00	0.00	0.08	0.03
	Total Free Product (gal)	0.08	0.08	0.21	0.07	0.04	0.01	0.01	0.00	0.00	0.00	0.08	0.03

TOTAL APPARENT FREE PRODUCT VOLUME (GAL)	22.70	24.89	24.93	16.42	20.24	20.70	14.30	14.43	15.95	21.52	17.13	10.36
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**TABLE 2**  
**L.E. CARPENTER - WHARTON, NEW JERSEY**  
**REGIONAL APPARENT FREE PRODUCT TRENDS**

		27-Oct-99	30-Nov-99	16-Dec-99	28-Jan-00	18-Feb-00	24-Mar-00	19-Apr-00	18-May-00	16-Jun-00	18-Jul-00	17-Aug-00	18-Sep-00
<b>Western Region of Free Product</b>	EFR-1	1.63	1.47	1.20	1.22	0.85	1.86	1.59	1.54	2.10	1.51	1.26	1.53
	EFR-2	1.35	1.28	1.40	0.06	1.04	2.25	2.00	1.64	1.89	1.40	0.36	1.08
	EFR-3	0.69	0.47	0.02	0.51	0.07	0.08	0.09	0.62	1.02	0.25	0.02	0.08
	EFR-17	0.06	0.24	0.25	0.11	0.32	0.04	0.16	0.65	0.04	0.01	0.02	0.09
	EFR-18	0.36	0.77	0.05	0.20	0.05	0.12	0.04	0.32	0.01	0.06	0.16	0.08
	EFR-20	1.92	1.36	0.75	1.08	2.58	0.64	0.42	0.54	0.33	0.30	0.39	0.45
	EFR-21	2.32	1.40	1.70	1.92	1.34	3.04	2.86	2.47	3.02	2.09	1.62	2.75
	EFR-28	2.19	0.96	1.42	1.33	1.00	2.30	2.42	1.81	2.68	1.72	2.48	2.02
	Total Free Product (ft)	10.52	7.95	6.79	6.43	7.25	10.33	9.58	9.59	11.09	7.34	6.31	8.08
	Total Free Product (gal)	6.84	5.17	4.41	4.18	4.71	6.71	6.23	6.23	7.21	4.77	4.10	5.25
<b>West-Central Region of Free Product</b>	EFR-4	0.11	0.03	0.58	0.51	0.48	0.11	0.11	0.41	0.22	0.05	0.02	0.02
	EFR-5	3.23	2.99	1.27	2.95	2.46	2.91	2.54	1.84	2.34	1.99	1.69	1.57
	EFR-6	0.86	0.63	0.33	1.07	0.77	0.29	0.31	0.49	0.27	0.54	0.29	0.55
	EFR-7	0.07	0.04	0.47	0.15	0.02	0.35	0.01	0.02	-	-	0.01	-
	EFR-19	1.54	0.84	0.69	1.67	1.73	0.25	0.60	0.98	0.17	0.63	0.34	0.22
	EFR-22	2.22	1.76	0.53	0.82	0.58	0.09	0.16	0.05	0.05	0.01	0.18	0.06
	EFR-23	0.53	0.64	0.24	0.23	0.31	0.46	0.06	0.06	0.01	0.13	0.03	0.07
	EFR-24	0.00	0.04	0.13	0.11	0.07	0.58	0.02	0.03	-	-	-	0.01
	EFR-25	0.39	0.19	0.05	0.31	0.39	0.58	0.21	0.10	0.03	0.10	0.03	0.10
	EFR-26	0.52	0.94	0.59	1.54	1.10	1.33	1.68	2.02	1.44	2.25	1.38	2.01
	EFR-27	0.01	0.01	0.01	0.02	0.14	0.20	0.01	0.03	0.04	0.01	0.01	0.15
	Total Free Product (ft)	9.48	8.11	4.89	9.38	8.05	7.15	5.71	6.03	4.57	5.71	3.98	4.76
	Total Free Product (gal)	6.16	5.27	3.18	6.10	5.23	4.65	3.71	3.92	2.97	3.71	2.59	3.09
<b>East-Central Region of Free Product</b>	EFR-8	0.13	0.05	0.11	0.05	0.06	0.08	0.03	0.05	0.03	0.02	0.01	0.01
	EFR-9	0.28	0.10	0.15	0.13	0.08	0.19	0.02	0.06	0.06	0.12	0.16	0.08
	EFR-10	5.18	3.95	3.07	4.50	3.55	3.50	4.50	1.36	2.50	3.09	0.75	2.76
	EFR-11	3.20	3.11	1.07	3.44	4.95	2.41	2.95	2.93	2.49	4.12	0.79	4.73
	EFR-12	0.09	0.67	0.01	0.03	0.49	0.46	0.10	0.19	0.01	0.01	0.00	0.03
	EFR-13	0.78	0.57	0.26	0.36	0.34	0.48	0.47	0.69	0.55	0.73	0.49	0.22
	Total Free Product (ft)	9.66	8.45	4.67	8.51	9.47	7.12	8.07	5.28	5.64	8.09	2.20	7.83
	Total Free Product (gal)	6.28	5.49	3.04	5.53	6.16	4.63	5.25	3.43	3.67	5.26	1.43	5.09
<b>Eastern Region of Free Product</b>	EFR-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	EFR-15	0.02	0.08	0.02	0.02	0.02	0.02	0.02	0.01	0.00	0.00	0.00	0.00
	EFR-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Free Product (ft)	0.02	0.08	0.02	0.02	0.02	0.02	0.02	0.01	0.00	0.00	0.00	0.00
	Total Free Product (gal)	0.01	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00
<b>TOTAL APPARENT FREE PRODUCT VOLUME (GAL)</b>		19.29	15.98	10.64	15.82	16.11	16.00	15.20	13.59	13.85	13.74	8.12	13.44

**TABLE 2**  
**L.E. CARPENTER - WHARTON, NEW JERSEY**  
**REGIONAL APPARENT FREE PRODUCT TRENDS**

	EFR Event Date	25-Oct-00	17-Nov-00	15-Dec-00	15-Mar-01
<b>Western Region of Free Product</b>	<b>EFR-1</b>	1.00	1.07	1.14	2.91
	<b>EFR-2</b>	0.97	1.09	0.76	2.92
	<b>EFR-3</b>	0.44	0.43	0.46	0.33
	<b>EFR-17</b>	0.06	0.36	0.01	0.41
	<b>EFR-18</b>	0.31	0.31	0.20	3.27
	<b>EFR-20</b>	0.54	0.11	0.37	0.24
	<b>EFR-21</b>	1.79	1.65	1.37	4.09
	<b>EFR-28</b>	1.39	1.36	0.64	2.81
	<b>Total Free Product (ft)</b>	6.50	6.38	4.95	16.98
	<b>Total Free Product (gal)</b>	4.23	4.15	3.22	11.04
<b>West-Central Region of Free Product</b>	<b>EFR-4</b>	0.02	0.05	0.21	0.59
	<b>EFR-5</b>	2.74	2.47	2.76	5.95
	<b>EFR-6</b>	0.83	0.79	0.96	2.05
	<b>EFR-7</b>	0.01	0.01	0.01	0.28
	<b>EFR-19</b>	0.87	0.59	1.42	2.32
	<b>EFR-22</b>	0.53	2.14	1.50	0.81
	<b>EFR-23</b>	0.07	0.08	0.39	0.07
	<b>EFR-24</b>	0.01	0.01	0.04	2.27
	<b>EFR-25</b>	0.19	0.12	0.10	0.04
	<b>EFR-26</b>	2.05	1.78	1.10	2.64
	<b>EFR-27</b>	0.01	0.01	0.01	0.48
	<b>Total Free Product (ft)</b>	7.33	8.05	8.50	17.50
	<b>Total Free Product (gal)</b>	4.76	5.23	5.53	11.38
<b>East-Central Region of Free Product</b>	<b>EFR-8</b>	0.16	0.02	0.06	0.03
	<b>EFR-9</b>	0.02	0.50	0.77	0.57
	<b>EFR-10</b>	3.88	3.27	4.05	5.64
	<b>EFR-11</b>	4.26	4.00	3.73	2.82
	<b>EFR-12</b>	0.11	0.04	0.02	0.07
	<b>EFR-13</b>	0.25	0.09	0.15	1.14
	<b>Total Free Product (ft)</b>	8.68	7.92	8.78	10.27
<b>Eastern Region of Free Product</b>	<b>Total Free Product (gal)</b>	5.64	5.15	5.71	6.68
	<b>EFR-14</b>	0.00	0.00	0.00	0
	<b>EFR-15</b>	0.00	0.00	0.00	0.01
	<b>EFR-16</b>	0.00	0.00	0.00	0
	<b>Total Free Product (ft)</b>	0.00	0.00	0.00	0.01
<b>TOTAL APPARENT FREE PRODUCT VOLUME (GAL)</b>		14.63	14.53	14.45	29.09

**TABLE 3**  
**L. E. CARPENTER - WHARTON, NEW JERSEY**

**MONTHLY EFR WELL GAUGING LOG**

**EFR #40**

**DATE**

**15-Mar-01**

WELL ID	DEPTH TO PRODUCT (ft)	DEPTH TO WATER (ft)	PRODUCT TICKNESS (ft)
EFR-1	9.23	12.14	2.91
EFR-2	9.81	12.73	2.92
EFR-3	10.02	10.35	0.33
EFR-4	10.64	11.23	0.59
EFR-5	9.59	15.54	5.95
EFR-6	9.24	11.29	2.05
EFR-7	4.83	5.11	0.28
EFR-8	5.38	5.41	0.03
EFR-9	5.61	6.18	0.57
EFR-10	6.15	11.79	5.64
EFR-11	5.94	8.76	2.82
EFR-12	4.95	5.02	0.07
EFR-13	4.45	5.59	1.14
EFR-14	4.37	4.37	0.00
EFR-15	3.28	3.29	0.01
EFR-16	4.28	4.28	0.00
EFR-17	8.58	8.99	0.41
EFR-18	8.69	11.96	3.27
EFR-19	11.49	13.81	2.32
EFR-20	9.71	9.95	0.24
EFR-21	8.21	12.3	4.09
EFR-22	11.31	12.12	0.81
EFR-23	7.35	7.42	0.07
EFR-24	10.93	13.2	2.27
EFR-25	10.38	10.42	0.04
EFR-26	12.36	15	2.64
EFR-27	10.82	11.3	0.48
EFR-28	8.75	11.56	2.81

Total Volume  
Of Free  
Standing  
Product (gal)  
**29.09**

CEMCO FIELD TECHNICIAN: Gary Pizzuti

**TABLE 3**  
**L. E. CARPENTER - WHARTON, NEW JERSEY**

**MONTHLY EFR  
VAPOR AND LIQUID PHASE VOLUMETRIC CALCULATION LOG**

**EFR #40**

**15-Mar-01**

WELL ID	EXTRACTION TIME		VAPOR PHASE CONCENTRATION		SYSTEM RECOVERY DATA			
	TOTAL TIME (min)	TOTAL TIME (hrs)	PPM	LEL (%)	VACUUM In Hg	CFM	Ibs/hr	Total lbs
EFR-1	15.0	0.2500	6,560	100	17	100	32.01	8.0036
EFR-2	15.0	0.2500	6,560	100	17	100	32.01	8.0036
EFR-3	0.5	0.0083	6,560	100	17	100	32.01	0.2668
EFR-4	5.0	0.0833	6,560	100	17	100	32.01	2.6679
EFR-5	20.0	0.3333	6,560	100	17	100	32.01	10.6714
EFR-6	10.0	0.1667	6,560	100	17	100	32.01	5.3357
EFR-7	4.0	0.0667	6,560	100	17	100	32.01	2.1343
EFR-8	0.5	0.0083	394	6	17	100	1.92	0.0160
EFR-9	2.0	0.0333	5,445	83	17	100	26.57	0.8857
EFR-10	15.0	0.2500	6,560	100	17	100	32.01	8.0036
EFR-11	15.0	0.2500	6,560	100	17	100	32.01	8.0036
EFR-12	1.0	0.0167	1,378	21	17	100	6.72	0.1120
EFR-13	3.0	0.0500	1,115	17	17	100	5.44	0.2721
EFR-14	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-15	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-16	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-17	0.5	0.0083	6,560	100	17	100	32.01	0.2668
EFR-18	10.0	0.1667	6,560	100	17	100	32.01	5.3357
EFR-19	5.0	0.0833	6,560	100	17	100	32.01	2.6679
EFR-20	0.5	0.0083	6,560	100	17	100	32.01	0.2668
EFR-21	15.0	0.2500	6,560	100	17	100	32.01	8.0036
EFR-22	1.0	0.0167	6,560	100	17	100	32.01	0.5336
EFR-23	0.5	0.0083	6,560	100	17	100	32.01	0.2668
EFR-24	10.0	0.1667	0	100	17	100	0.00	0.0000
EFR-25	0.5	0.0083	6,560	100	17	100	32.01	0.2668
EFR-26	15.0	0.2500	6,560	100	17	100	32.01	8.0036
EFR-27	5.0	0.0833	6,560	100	17	100	32.01	2.6679
EFR-28	7.0	0.1167	6,560	100	17	100	32.01	3.7350
Total EFR Time (hrs)	2.9333	Avg ppm	5981.53				TOTAL (LBS)	86.3905

TOTAL VAPOR PHASE VOLUME (GAL) C 11.0633

Where:

ppm =	Parts per Million by Volume
Flow =	Cubic feet per minute (CFM) = 350
Molar Mass (MM) =	292 (2)
IGC =	Molecular Weight (lb/lb-mole) = 292
LEL =	Ideal Gas Constant (359 ft <sup>3</sup> /lb-mole) = 359
SG =	Free Product Mixture = 0.656 (1)
	Specific Gravity = 0.9363 (3)

NOTE PPM = (% LEL on Meter) x (LEL of Product Mixture) x (1,000,000)

(1) Weighted LEL for analyte mixture @ 0.656% (based on DEHP, Ethylbenzene & Total Xylene concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-11S; MW-6R; WP-B5 & WP-B4)

Analyte LELs: DEHP @ 0.3%; Ethylbenzene @ 1%; Xylenes @ 1.1%

NOTE (2) Avg. Molar Mass @ 292 (based on DEHP, Ethylbenzene & Total Xylene concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-11S; MW-6R; WP-B5 & WP-B4)

Individual Analyte Molar Mass: DEHP @ 390.54; Ethylbenzene @ 106.2; Total Xylenes @ 106.2

(3) Average specific gravity of 0.9363 (RMT, Inc. product sampling in October 1999 @ MW-1R; EFR-11 & WP-A8)

$$\text{Pounds/Hr (lbs/hr)} = (\text{ppm} \times (60 \text{ min/hr}) \times (\text{CFM}) \times (\text{MM})) / ((1 \times 10^6) \times (359 \text{ ft}^3/\text{lb-mole}))$$

Free Product & Groundwater Gauging (55-Gal Drum)	
Product Thickness (in)	41.21
Groundwater Thickness (in)	3.64
Conversion @ 1.65 gal/inch	1.65
Total Liquid Product Volume (gal)	68.00
Total Groundwater Volume (gal)	6.01
Ratio Groundwater to Free Product (gal/gal)	0.09

Total Recovered Groundwater Volume (gal)	A	6.01
Total Recovered Liquid Free Product Volume (g)	B	68.00
Total Recovered Fluids Volume (gal)	A+B	74.00
TOTAL EFR PRODUCT VOLUME (B+C)		79.06 GAL

Date	15-Mar-01
Project #	3868.18
Subcontractor	CEMCO
Vac Head Utilized	NORTECH Corp. 551B

CEMCO Field Technician Gary Pizzuti

RMT Project Manager Nicholas J. Clevert

TABLE 4  
L.E. CARPENTER - WHARTON, NEW JERSEY  
QUARTERLY MONITORING PROTOCOL  
(Revised Per NJDEP Letter Dated April 5, 2001)

Monitoring Well	Bottom of Well (ft)	Analytical Parameters	Rational	Comments
MW-14I	40.96', 2"	BTEX <sup>(1)</sup> DEHP <sup>(2)</sup>	Analytical results will identify the migration of the dissolved groundwater plume in the Intermediate Aquifer Zone downgradient of the site (Wharton Enterprise property)	Original Monitoring Well
MW-15S	17.47', 4"	BTEX <sup>(1)</sup> DEHP <sup>(2)</sup>	Analytical results will identify if the dissolved groundwater plume is migrating through this portion of the shallow aquifer zone (on the rail spur right-of-way)	Original Monitoring Well
MW-15I	38.34', 2"	BTEX <sup>(1)</sup> DEHP <sup>(2)</sup>	Analytical results will identify the migration of the dissolved groundwater plume through the Intermediate Aquifer Zone in the is area (on rail spur right-of-way)	Original Monitoring Well
MW-22R	11', 2"	BTEX <sup>(1)</sup> DEHP <sup>(1)</sup>	Analytical results will identify the movement of the dissolved groundwater plume in the shallow aquifer zone downgradient of the site (Wharton Enterprise property).	Original Monitoring Well. Beginning in 2nd quarter 2001, well will be analyzed for DEHP quarterly vs. semiannually
MW-25R	11', 2"	BTEX <sup>(1)</sup> DEHP <sup>(1)</sup>	Analytical results will identify the movement of the dissolved groundwater plume in the shallow aquifer zone downgradient of the site. East of MW-22R (Wharton Enterprise property).	DEHP sampling required quarterly as opposed to semi annually per Nov 23, 1998 NJDEP Letter.
MW-17S <sup>(3)</sup>	13.4', 4"	BTEX DEHP	Analytical results from this well will also identify "background" conditions at the site in the shallow aquifer zone.	Original Monitoring Well
MW-4	27', 2"	BTEX <sup>(1)</sup> DEHP <sup>(2)</sup>	Analytical results from this well will also identify "background" conditions at the site in the shallow aquifer zone (south portion of subject site, bordering on the Rockaway River)	Original Monitoring Well
MW-11D(R)	161'	DEHP <sup>(1)</sup>	Analytical results from this well identify potential contamination of deep aquifer. This well lies in the center of the free product plume.	New well added to monitoring protocol as of May 21, 1999 NJDEP Letter (review of 1st quarter 1999 monitoring report). Well exhibited DEHP contamination potentially as the result of draw down during well installation. Well will be sampled for both monitoring program parameters (BTEX & DEHP) per NJDEP letter dated Aug 17, 1999. As of 4th Quarter 2000 (1 year of BTEX and DEHP sampling), approval was requested from NJDEP and USEPA to remove this well from the quarterly sampling program. NJDEP response letter dated April 5, 2001 following review of the 4th Quarter 2000 monitoring report requested that MW-11D(R) be sampled quarterly for DEHP ONLY.
MW-21	15.0'	BTEX <sup>(1)</sup> DEHP <sup>(1)</sup>	Analytical results from this well will also identify "background" conditions at the site in the shallow aquifer zone. Additionally, data from this well is used to track the potential migratory trend from MW-25 (Eastern most portion of the subject site)	New well added to monitoring protocol as of Nov 23, 1998 NJDEP Letter.

**NOTES**

- (1) Parameter analysed every quarter
- (2) Parameter analysed 2nd and 4th quarter ONLY.
- (3) Well sampled 2nd and 4th quarter ONLY.

S: Shallow Hydrogeologic Unit

I: Intermediate Hydrogeologic

D: Deep Hydrogeologic Unit

R: Replacement well

**New Well** Indicates a modification to the sampling protocol has been required/recommended

**QA/QC PROTOCOL**

One (1) field blank will be collected for each parameter per each event (an additional 8 samples - 4 BTEX and 4 DEHP)

One (1) trip blank will be collected, alternating parameters per each event (an additional 4 samples - 2 BTEX and 2 DEHP)

One (1) duplicate sample will be collected from alternating wells and analyzed for alternating parameters (2 BTEX and 2 DEHP)

**FIELD ANALYSIS**

All quarterly monitoring wells will be field tested for pH, temperature, specific conductivity, dissolved oxygen, and redox potential

Redox potential added to field analysis 1st quarter 2001 to incorporate into RNA initiatives

**TABLE 5**  
**L.E. CARPENTER - Wharton, New Jersey**  
**Quarterly Groundwater Monitoring Data**

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS					ABOVE NJGWQS ?				
	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)
			ug/l	ug/l	ug/l	ug/l	ug/l					
NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30					
MW-4	1995	1	ND	26	ND	32	25,000	NO	NO	NO	NO	YES
		2	ND	16	ND	13	46,000	NO	NO	NO	NO	YES
		3	ND	9.7	ND	8.7	NS	NO	NO	NO	NO	-
		4	ND	8.8	ND	11	17,000	NO	NO	NO	NO	YES
	1996	1	ND	24	ND	47	NS	NO	NO	NO	YES	-
		2	NS	NS	NS	NS	NS	--	--	--	--	-
		3	ND	6.8	ND	4.3	NS	NO	NO	NO	NO	-
		4	ND	2.3	ND	ND	11,000	NO	NO	NO	NO	YES
	1997	1	ND	3.5	ND	1.8	NS	NO	NO	NO	NO	-
		2	ND	1.2	ND	4.2	120	NO	NO	NO	NO	YES
		3	ND	2.2	ND	12.6	NS	NO	NO	NO	NO	-
		4	NS	NS	NS	NS	NS	--	--	--	--	-
	1998	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	ND	1.0	ND	1.4	710	NO	NO	NO	NO	YES
		3	ND	1.9	ND	1.2	NS	NO	NO	NO	NO	-
		4	ND	9.3	ND	3.3	650	NO	NO	NO	NO	YES
	1999	1	ND	1.1	ND	2.5	NS	NO	NO	NO	NO	-
		2	ND	0.66	ND	ND	3,000	NO	NO	NO	NO	YES
		2 <sup>duplicate</sup>	ND	0.43	ND	ND	4,400	NO	NO	NO	NO	YES
		3	ND	3.10	ND	2.9	NS	NO	NO	NO	NO	-
		4	ND	0.51	ND	ND	4,000	NO	NO	NO	NO	YES
	2000	1	ND	0.54	ND	1.6	NS	NO	NO	NO	NO	-
		2	ND	0.3	ND	ND	480	NO	NO	NO	NO	YES
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	0.41	210	NO	NO	NO	NO	YES
		4 <sup>duplicate</sup>	ND	ND	ND	0.33	NS	NO	NO	NO	NO	-
	2001	1	ND	1	ND	3.7	NS	NO	NO	NO	NO	-

**TABLE 5**  
**L.E. CARPENTER - Wharton, New Jersey**  
**Quarterly Groundwater Monitoring Data**

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS					ABOVE NJGWQS ?				
	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)
			ug/l	ug/l	ug/l	ug/l	ug/l					
NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30					
MW-11(DR) <sup>(2)(3)</sup>	1999	1	ND	ND	ND	ND	64	NO	NO	NO	NO	YES
		1 <sup>duplicate</sup>	ND	ND	ND	ND	20	NO	NO	NO	NO	NO
		2	NS	NS	NS	NS	NS	--	--	--	--	--
		3 <sup>(3)</sup>	NS	NS	NS	NS	59	--	--	--	--	YES
		3 <sup>duplicate</sup>	NS	NS	NS	NS	13	--	--	--	--	NO
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2000	1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	Field ID: MW-11DD	2 <sup>duplicate</sup>	ND	ND	ND	ND	NR	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	3.4	NO	NO	NO	NO	NO
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
DEHP found in lab blank	2001	1	ND	ND	ND	ND	0.8	NO	NO	NO	NO	NO
DEHP found in lab blank	Field ID: MW-11DD	1 <sup>duplicate</sup>	NS	NS	NS	NS	0.9	--	--	--	--	NO

**TABLE 5**  
**L.E. CARPENTER - Wharton, New Jersey**  
**Quarterly Groundwater Monitoring Data**

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS					ABOVE NJGWQS ?				
	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)
			ug/l	ug/l	ug/l	ug/l	ug/l					
NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30					
<b>MW-14I</b>	1995	1	ND	0.4	ND	1.2	140	NO	NO	NO	NO	YES
		2	ND	ND	ND	ND	1.6	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	2.6	NO	NO	NO	NO	NO
	1996	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	NS	NS	NS	NS	NS	--	--	--	--	-
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	2.7	NO	NO	NO	NO	NO
	1997	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	1.6	NO	NO	NO	NO	NO
		3	1.2	22.1	ND	176	NS	YES	NO	NO	YES	-
		4	NS	NS	NS	NS	NS	--	--	--	--	-
	1998	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	ND	0.34	ND	2	24	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	1999	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	NO
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	-
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2000	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2001	1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO

**TABLE 5**  
**L.E. CARPENTER - Wharton, New Jersey**  
**Quarterly Groundwater Monitoring Data**

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS					ABOVE NJGWQS?				
	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)
			ug/l	ug/l	ug/l	ug/l	ug/l					
NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJVQWS)			1	700	1,000	40	30					
MW-15S	1995	1	ND	ND	ND	ND	2.4	NO	NO	NO	NO	NO
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	1996	1	ND	33	ND	83	NS	NO	NO	NO	YES	-
		2	NS	NS	NS	NS	NS	-	-	-	-	-
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	0.21	ND	1.7	ND	NO	NO	NO	NO	NO
	1997	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	1.2	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--
		4	NS	NS	NS	NS	NS	-	-	-	-	-
	1998	1	ND	ND	1.4	ND	NS	NO	NO	NO	NO	-
		2	ND	ND	ND	1.3	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	1999	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2000	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	--
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2001	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-

**TABLE 5**  
**L.E. CARPENTER - Wharton, New Jersey**  
**Quarterly Groundwater Monitoring Data**

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS					ABOVE NJGWQS?				
	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)
			ug/l	ug/l	ug/l	ug/l	ug/l					
NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30					
<b>MW-15I</b>	1995	1	ND	ND	ND	ND	250	NO	NO	NO	NO	YES
		2	ND	ND	ND	ND	7.2	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	2.8	NO	NO	NO	NO	NO
	1996	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	NS	NS	NS	NS	NS	-	-	-	-	-
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	1.7	NO	NO	NO	NO	NO
		4 <sup>duplicate</sup>	ND	ND	ND	ND	1.9	NO	NO	NO	NO	NO
	1997	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	2.2	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	NS	NS	NS	NS	NS	-	-	-	-	-
	1998	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	1.9	NO	NO	NO	NO	NO
		2 <sup>duplicate</sup>	ND	ND	ND	ND	3.8	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	0.53	11	NO	NO	NO	NO	NO
		4 <sup>duplicate</sup>	ND	0.2	ND	0.8	9.8	NO	NO	NO	NO	NO
	1999	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	4.8	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2000	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2001	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-

**TABLE 5**  
**L.E. CARPENTER - Wharton, New Jersey**  
**Quarterly Groundwater Monitoring Data**

THROUGH 1ST QUARTER 2001

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS					ABOVE NJGWQS ?				
	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)
			ug/l	ug/l	ug/l	ug/l	ug/l					
NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30					
MW-17S <sup>(4)</sup>	1995	1	ND	0.6	0.3	1.9	11	NO	NO	NO	NO	NO
		2	0.2	ND	0.18	ND	ND	NO	NO	NO	NO	NO
		3	NS	NS	NS	NS	NS	--	--	--	--	--
		4	ND	ND	ND	0.63	ND	NO	NO	NO	NO	NO
	1996	1	NS	NS	NS	NS	NS	--	--	--	--	--
		2	NS	NS	NS	NS	NS	--	--	--	--	--
		3	NS	NS	NS	NS	NS	--	--	--	--	--
		4	ND	ND	ND	ND	1.5	NO	NO	NO	NO	NO
	1997	1	NS	NS	NS	NS	NS	--	--	--	--	--
		2	ND	ND	ND	ND	NS	NO	NO	NO	NO	--
		3	NS	NS	NS	NS	NS	--	--	--	--	--
		4	NS	NS	NS	NS	NS	--	--	--	--	--
	1998	1	NS	NS	NS	NS	NS	--	--	--	--	--
		2	ND	ND	ND	1.2	6.1	NO	NO	NO	NO	NO
		3	NS	NS	NS	NS	NS	--	--	--	--	--
		4	ND	ND	ND	ND	6	NO	NO	NO	NO	NO
	1999	1	NS	NS	NS	NS	NS	--	--	--	--	--
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	NS	NS	NS	NS	NS	--	--	--	--	--
		4	ND	ND	ND	ND	40	NO	NO	NO	NO	YES
	2000	1	NS	NS	NS	NS	NS	--	--	--	--	--
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	NS	NS	NS	NS	NS	--	--	--	--	--
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO

**TABLE 5**  
**L.E. CARPENTER - Wharton, New Jersey**  
**Quarterly Groundwater Monitoring Data**

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS					ABOVE NJGWQS ?				
	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)
			ug/l	ug/l	ug/l	ug/l	ug/l					
NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30					
MW-21 <sup>(1)</sup>	1999	1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2000	1	ND	ND	ND	ND	6	NO	NO	NO	NO	NO
		1 <sup>duplicate</sup>	NS	NS	NS	NS	ND	--	--	--	--	NO
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
DEHP found in lab blank	2001	1	ND	ND	ND	ND	2.7	NO	NO	NO	NO	NO

**TABLE 5**  
**L.E. CARPENTER - Wharton, New Jersey**  
**Quarterly Groundwater Monitoring Data**

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS					ABOVE NJGWQS?				
	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)
			ug/l	ug/l	ug/l	ug/l	ug/l					
NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30					
MW-22(R)	1995	1	ND	57	ND	260	6,500	NO	NO	NO	YES	YES
		2	ND	311	ND	955	380	NO	NO	NO	YES	YES
		3	ND	171	ND	693	NS	NO	NO	NO	YES	-
		4	ND	123	ND	494	320	NO	NO	NO	YES	YES
	1996	1	NS	NS	NS	NS	NS	-	-	-	-	-
		2	NS	NS	NS	NS	NS	-	-	-	-	-
		3	ND	359	ND	1,320	NS	NO	NO	NO	YES	--
		4	ND	320	ND	1,330	ND	NO	NO	NO	YES	NO
	1997	1	NS	NS	NS	NS	NS	-	-	-	-	-
		2	ND	5,730	ND	32,900	7,500	NO	YES	NO	YES	YES
		3	ND	11,400	348	66,000	NS	NO	YES	NO	YES	-
		4	NS	NS	NS	NS	NS	-	-	-	-	--
	1998	1	ND	4,070	348	20,600	NS	NO	YES	NO	YES	-
		2	ND	2,260	ND	11,300	5,800	NO	YES	NO	YES	YES
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--
		3 <sup>duplicate</sup>	ND	2,510	ND	11,000	NS	NO	YES	NO	YES	-
		4	ND	1,650	ND	7,230	1,100	NO	YES	NO	YES	YES
	1999	1	ND	18	ND	84	NS	NO	NO	NO	YES	-
		2	ND	1,600	ND	7,600	670	NO	YES	NO	YES	YES
		3	ND	1,200	42	5,200	NS	NO	YES	NO	YES	-
		4	ND	810	ND	3,300	1200	NO	YES	NO	YES	YES
		4 <sup>duplicate</sup>	ND	840	ND	3,400	1600	NO	YES	NO	YES	YES
	2000	1	ND	360	ND	1,400	NS	NO	NO	NO	YES	-
Dilution Factor 50		2	ND	820	ND	3,600	92	NO	YES	NO	YES	YES
Dilution Factor 200		3	ND	1,000	ND	4,800	NS	NO	YES	NO	YES	-
Dilution Factor 50 and 250 for DEHP and BTEX respectively		4	ND	1,200	ND	6,200	5100	NO	YES	NO	YES	YES
Dilution Factor 200	2001	1	ND	1,900	ND	9,000	NS	NO	YES	NO	YES	-

**TABLE 5**  
**L.E. CARPENTER - Wharton, New Jersey**  
**Quarterly Groundwater Monitoring Data**

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS					ABOVE NJGWQS ?				
	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)
			ug/l	ug/l	ug/l	ug/l	ug/l					
NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30					
MW-25(R)	1995	1	NS	NS	NS	NS	NS	--	--	--	--	--
		2	ND	ND	ND	ND	1.6	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--
		4	ND	ND	ND	ND	68	NO	NO	NO	NO	YES
	1996	1	NS	NS	NS	NS	NS	--	--	--	--	--
		2	NS	NS	NS	NS	NS	--	--	--	--	--
		3	ND	0.34	ND	2.2	NS	NO	NO	NO	NO	--
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	1997	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	--
		2	ND	13.5	ND	89	63	NO	NO	NO	YES	YES
		3	ND	4.1	ND	30.7	NS	NO	NO	NO	NO	--
		4	NS	NS	NS	NS	NS	--	--	--	--	--
	1998	1	ND	0.33	ND	1.5	NS	NO	NO	NO	NO	--
		1 <sup>duplicate</sup>	ND	0.39	ND	0.94	NS	NO	NO	NO	NO	--
		2	ND	ND	ND	ND	5.3	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--
		4	ND	ND	ND	ND	1.9	NO	NO	NO	NO	NO
	1999	1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		2	ND	ND	ND	14	ND	NO	NO	NO	NO	NO
		3	ND	0.39	ND	1.4	9.6	NO	NO	NO	NO	NO
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2000	1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	Field ID: MW-25RD	3 <sup>duplicate</sup>	NS	NS	NS	NS	ND	--	--	--	--	NO
		4	ND	0.33	ND	1.1	3.4	NO	NO	NO	NO	NO
DEHP found in lab blank	2001	1	ND	ND	ND	ND	1.9	NO	NO	NO	NO	NO

**TABLE 5**  
**L.E. CARPENTER - Wharton, New Jersey**  
**Quarterly Groundwater Monitoring Data**

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS					ABOVE NJGWQS ?				
	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)
			ug/l	ug/l	ug/l	ug/l	ug/l					
NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJVQWS)			1	700	1,000	40	30					
Trip Blank	1995	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
		2	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
		4	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
	1996	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
		2	NS	NS	NS	NS	NS	—	—	—	—	—
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
		4	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
	1997	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
		4	NS	NS	NS	NS	NS	—	—	—	—	—
	1998	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
		4	ND	ND	ND	NS	1.3	NO	NO	NO	—	NO
	1999	1	ND	ND	ND	NS	ND	NO	NO	NO	—	NO
		2	ND	ND	ND	NS	ND	NO	NO	NO	—	NO
		3	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		4	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
	2000	1	NS	NS	NS	NS	ND	—	—	—	—	NO
		1	NS	NS	NS	NS	ND	—	—	—	—	NO
		2	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
		3	NS	NS	NS	NS	ND	—	—	—	—	NO
		4	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
DEHP found in lab blank	2001	1	NS	NS	NS	NS	NS	0.6	—	—	—	NO

**TABLE 5**  
**L.E. CARPENTER - Wharton, New Jersey**  
**Quarterly Groundwater Monitoring Data**

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS					ABOVE NJGWQS ?				
	YEAR	QUARTER	Benzene	Ethybenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethybenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)
			ug/l	ug/l	ug/l	ug/l	ug/l					
NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30					
<b>Field Blank</b>	1995	1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		2	ND	0.73	ND	ND	1.3	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	1996	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	--
		2	NS	NS	NS	NS	NS	--	--	--	--	--
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	1997	1	ND	ND	0.2	ND	NS	NO	NO	NO	NO	--
		2	ND	ND	ND	ND	NS	NO	NO	NO	NO	--
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--
		4	NS	NS	NS	NS	NS	--	--	--	--	--
	1998	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	--
		2	ND	ND	ND	ND	NS	NO	NO	NO	NO	--
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	--
		4	ND	ND	ND	ND	1.3	NO	NO	NO	NO	NO
	1999	1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2000	1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		1	ND	ND	ND	ND	NS	NO	NO	NO	NO	--
		1	NS	NS	NS	NS	3.2	--	--	--	--	NO
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
DEHP found in lab blank	2001	1	ND	ND	ND	ND	1.3	NO	NO	NO	NO	NO

**LEGEND**

mg/L = micrograms per liter  
 NJGWQS = New Jersey Groundwater Quality Standards  
 ROD: Record of Decision  
 NA = Not Applicable  
 NS = Not Sampled  
 ND: No Detection  
~~DEHP~~ = Duplicate sample  
 NR = Not Run

Values in **BOLD FONT** are above BOTH the NJDEP NJGWQS and the ROD Discharge Criteria

- Used when comparison against known standards does not apply as the well was not sampled (NS) for a specific an

**Sampling Notes:**

- (1) MW-21 Quarterly sampling required for both DEHP and BTEX as of NJDEP letter dated Nov 23, 1998
- (2) MW-11(R) & MW-11(DR) sampled for both DEHP and BTEX per NJDEP letter dated Nov 23, 1998 (one time sample round- baseline concentration)
- (3) MW-11D required to be sampled quarterly per NJDEP letter dated August 17, 1999. Third quarter 1999 sampling was performed prior to receiving the NJDEP letter. Subsequently, the well was only sampled for DEHP. Starting 4th quarter 1999, MW-11D will be sampled for both DEHP and BTEX. Based on NJDEP letter dated April 5, 2001, this well will be sampled for DEHP only (starting 2nd qtr 2001).
- (4) Well sampled Biannually - 2nd and 4th Quarter Only as of the beginning of 1998

**TABLE 6**  
**Water Level Elevations - 1st QUARTER 2001**  
**L.E. Carpenter, Wharton, New Jersey**

WELL LOCATION	WELL TYPE	BASELINE LOCATION	WELL INSTALLATION AND CONSTRUCTION INFORMATION <sup>(1)</sup>									GEODETIC LOCATION		ELEVATIONS (FT. MSL)			QUARTERLY MEASUREMENT INFORMATION <sup>(2)</sup>								
			MANAGING CONSULTANT	INSTALLATION DATE	TOTAL WELL DEPTH (FT)	WELL DIAMETER (IN)	SCREEN MATERIAL	SLOT SIZE (IN)	TOP OF SCREEN (FT)	BOTTOM OF SCREEN (FT)	SCREENED INTERVAL (FT)	AQUIFER SYSTEM	LATITUDE	LONGITUDE	GROUND	OUTER CASING	INNER WELL	MEAS. DATE	PRODUCT DEPTH	WATER DEPTH	PRODUCT ELEVATION	WATER ELEVATION	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ELEVATIONS <sup>(3)</sup>	
CW-1	Caisson Well	North 162.39	East 203.83	ROY F. WESTON	-	-	-	-	-	-	-	40° 54' 14.2"	74° 34' 34.7"	630.83	634.35	-	27-Feb-01	-	6.42	-	624.41	-	-		
CW-3	Caisson Well	North 198.46	East 373.37	ROY F. WESTON	-	-	-	-	-	-	-	40° 54' 13.8"	74° 34' 32.5"	628.63	633.30	-	27-Feb-01	-	7.65	-	620.98	-	-		
GEI-11	Piezometer	North 607.06	West 69.57	ROY F. WESTON	April to October 1989	44.34	2.00	PVC	0.02	31.62	41.62	10.00	I	40° 54' 19.3"	74° 34' 35.3"	628.44	630.93	630.78	27-Feb-01	-	4.36	-	626.42	-	-
GEI-21	Piezometer	North 168.56	West 316.79	ROY F. WESTON	April to October 1989	46.28	2.00	PVC	0.02	31.50	41.50	10.00	I	40° 54' 17.4"	74° 34' 43.1"	635.92	638.35	638.20	27-Feb-01	-	10.64	-	627.56	-	-
GEI-25	Piezometer	North 164.27	West 307.48	ROY F. WESTON	April to October 1989	22.21	2.00	PVC	0.02	10.00	20.00	10.00	S	40° 54' 17.3"	74° 34' 43.0"	635.46	637.87	637.67	27-Feb-01	-	10.40	-	627.27	-	-
GEI-31	Piezometer	South 86.67	West 441.14	ROY F. WESTON	April to October 1989	53.29	2.00	PVC	0.02	30.00	40.00	10.00	I	40° 54' 14.8"	74° 34' 43.7"	637.56	639.99	639.85	27-Feb-01	-	12.95	-	626.90	-	-
MW-1(R)	Monitoring Well	South 13.7	West 61.04	ROY F. WESTON	February 3, 1995	22.50	4.00	STEEL	0.01	7.00	22.50	15.50	S	40° 54' 13.8"	74° 34' 38.8"	635.79	635.78	635.47	27-Feb-01	9.25	9.46	626.22	626.01	0.21	626.21
MW-2(R)	Monitoring Well	North 241.17	East 304.79	ROY F. WESTON	January 30, 1995	13.00	2.00	PVC	0.01	2.00	12.00	10.00	S	40° 54' 14.4"	74° 34' 33.1"	629.06	632.28	632.14	27-Feb-01	-	6.20	-	625.94	-	-
MW-3	Monitoring Well	North 216.23	East 356.38	WEHRAN ENG.	May 15, 1980	27.00	2.00	STEEL	0.01	1.50	27.00	25.50	S	40° 54' 14.0"	74° 34' 32.6"	628.64	632.27	632.56	27-Feb-01	-	6.35	-	626.21	-	-
MW-4 <sup>(3)</sup>	Monitoring Well	North 13.34	East 300.92	WEHRAN ENG.	May 20, 1980	27.00	2.00	STEEL	0.01	1.50	27.00	25.50	S	40° 54' 12.4"	74° 34' 34.4"	628.86	632.31	632.50	27-Feb-01	-	6.00	-	626.50	-	-
MW-6(R)	Monitoring Well	North 151.9	East 264.4	ROY F. WESTON	January 25, 1995	10.98	2.00	PVC	0.02	0.98	10.98	10.00	S	40° 54' 13.8"	74° 34' 34.1"	629.82	632.64	632.42	27-Feb-01	-	4.77	-	627.65	-	-
MW-8 <sup>(3)</sup>	Monitoring Well	North 78.56	East 367.34	GROUNDWATER TECHNOLOGIES	1983	19.00	2.00	STEEL	0.02	0.00	19.00	19.00	S	40° 54' 12.7"	74° 34' 33.3"	627.99	630.56	628.79	27-Feb-01	-	2.42	-	626.37	-	-
MW-9 <sup>(3)</sup>	Monitoring Well	South 4.77	East 252.41	GROUNDWATER TECHNOLOGIES	1983	20.50	2.00	STEEL	0.02	0.50	20.00	19.50	S	40° 54' 12.5"	74° 34' 35.1"	629.21	631.69	630.18	27-Feb-01	-	3.79	-	626.39	-	-
MW-11S	Monitoring Well	North 137.25	East 199.33	ROY F. WESTON	April to October 1989	14.73	4.00	STEEL	0.02	4.37	14.41	10.00	S	40° 54' 14.0"	74° 34' 34.9"	631.23	633.26	632.96	27-Feb-01	7.05	12.20	625.91	620.76	5.15	625.58
MW-11(R) <sup>(3)</sup>	Monitoring Well	North 147.83	East 195.43	RMT, INC.	February 20, 1998	52.00	2.00	STEEL	0.01	42.00	52.00	10.00	I	40° 54' 14.1"	74° 34' 34.9"	630.89	633.67	633.33	27-Feb-01	-	7.29	-	626.04	-	-
MW-11D(R) <sup>(3)</sup>	Monitoring Well	North 152.3	East 189.41	RMT, INC.	February 20, 1998	157.00	2.00	STEEL	0.01	147.00	157.00	10.00	D	40° 54' 14.2"	74° 34' 34.9"	630.66	633.35	633.09	27-Feb-01	-	5.05	-	628.04	-	-
MW-12S	Monitoring Well	South 45.27	East 206.49	ROY F. WESTON	May 7, 1996	14.45	4.00	PVC	0.02	2.45	14.45	12.00	S	40° 54' 12.3"	74° 34' 35.9"	632.17	634.86	634.33	27-Feb-01	-	7.30	-	627.03	-	-
MW-13S	Monitoring Well	North 359.57	East 360.32	ROY F. WESTON	April to October 1989	16.39	4.00	STEEL	0.02	5.37	15.14	10.00	S	40° 54' 15.3"	74° 34' 31.7"	628.34	631.40	631.23	27-Feb-01	-	4.39	-	626.84	-	-
MW-13L	Monitoring Well	North 338.93	East 365.76	ROY F. WESTON	January 27, 1995	17.00	2.00	PVC	0.01	2.00	12.00	10.00	S	40° 54' 15.0"	74° 34' 31.8"	628.26	630.96	630.59	27-Feb-01	-	4.82	-	625.77	-	-
MW-14S	Monitoring Well	North 340.76	East 338.82	ROY F. WESTON	July 31, 1989	46.30	2.00	STEEL	0.02	35.22	45.26	10.00	I	40° 54' 15.1"	74° 34' 31.9"	628.36	630.88	630.66	27-Feb-01	-	4.80	-	625.86	-	-
MW-145	Monitoring Well	North 294.9	East 452.42	ROY F. WESTON	April to October 1989	15.46	4.00	STEEL	0.02	3.42	13.46	10.00	S	40° 54' 14.3"	74° 34' 31.0"	625.78	628.63	628.41	27-Feb-01	-	3.05	-	625.36	-	-
MW-141 <sup>(3)</sup>	Monitoring Well	North 284.3	East 441.91	ROY F. WESTON	April to October 1989	44.30	2.00	STEEL	0.02	33.22	43.26	10.00	I	40° 54' 14.2"	74° 34' 31.2"	625.93	632.32	628.23	27-Feb-01	-	2.49	-	625.74	-	-
MW-15S <sup>(3)</sup>	Monitoring Well	North 121.88	West 53.34	ROY F. WESTON	April to October 1989	25.94	4.00	STEEL	0.02	9.37	19.41	10.00	S	40° 54' 15.0"	74° 34' 38.0"	634.83	637.03	636.77	27-Feb-01	-	10.47	-	626.30	-	-
MW-151 <sup>(3)</sup>	Monitoring Well	North 125.48	West 46.56	ROY F. WESTON	July 17, 1989	43.92	2.00	STEEL	0.02	30.55	40.26	10.00	I	40° 54' 15.0"	74° 34' 37.9"	634.74	636.88	636.66	27-Feb-01	-	10.35	-	626.31	-	-
MW-16S	Monitoring Well	North 125.49	West 267.06	ROY F. WESTON	April to October 1989	23.90	4.00	STEEL	0.02	7.37	17.41	10.00	S	40° 54' 15.0"	74° 34' 40.4"	632.57	634.69	634.47	27-Feb-01	-	7.36	-	627.11	-	-
MW-161	Monitoring Well	North 138.04	West 266.53	ROY F. WESTON	April to October 1989	46.53	2.00	STEEL	0.02	32.22	42.26	10.00	I	40° 54' 16.0"	74° 34' 40.3"	632.43	635.08	63							

**TABLE 6**  
**Water Level Elevations - 1st QUARTER 2001**  
**L.E. Carpenter, Wharton, New Jersey**

WELL LOCATION	WELL TYPE	BASELINE LOCATION	WELL INSTALLATION AND CONSTRUCTION INFORMATION <sup>(6)</sup>									GEODETIC LOCATION		ELEVATIONS (FT. MSL)			QUARTERLY MEASUREMENT INFORMATION <sup>(6)</sup>							
			MANAGING CONSULTANT	INSTALLATION DATE	TOTAL WELL DEPTH (FT)	WELL DIAMETER (IN)	SCREEN MATERIAL	SLOT SIZE (IN)	TOP OF SCREEN (FT)	BOTTOM OF SCREEN (FT)	SCREENED INTERVAL (FT)	AQUIFER SYSTEM	LATITUDE	LONGITUDE	GROUND	OUTER CASING	INNER WELL	MEAS. DATE	PRODUCT DEPTH	WATER DEPTH	PRODUCT ELEVATION	WATER ELEVATION	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ELEVATIONS <sup>(2)</sup>
WP-B5	Area B Well Point	North 224.46 East 216.97	ROY F. WESTON	1993	11.00	2.00	PVC	-	1.00	11.00	10.00	S	40° 54' 14.7"	74° 34' 34.2"	630.03		632.11	27-Feb-01	-	4.81	-	627.30	-	-
WP-B6	Area B Well Point	North 130.98 East 310.48	ROY F. WESTON	1993	-	-	-	-	-	-	-	-	40° 54' 13.4"	74° 34' 33.7"	629.72		631.86	27-Feb-01	-	4.91	-	626.95	-	-
WP-B7	Area B Well Point	North 186.28 East 402.8	ROY F. WESTON	1993	-	-	-	-	-	-	-	-	40° 54' 13.5"	74° 34' 32.3"	627.62		629.49	27-Feb-01	-	3.78	-	625.71	-	-
WP-B10	Area B Well Point	North 228.07 East 174.18	ROY F. WESTON	1993	-	-	-	-	-	-	-	-	40° 54' 14.9"	74° 34' 34.7"	630.42	633.12	632.74	27-Feb-01	-	6.68	-	626.06	-	-
WP-C1	Area C Well Point	South 26.69 East 182.1	ROY F. WESTON	1993	-	-	-	-	-	-	-	-	40° 54' 12.6"	74° 34' 36.1"	632.81		633.51	27-Feb-01	-	6.53	-	626.98	-	-
WP-C2	Area C Well Point	South 20.92 East 219.91	ROY F. WESTON	1993	-	-	-	-	-	-	-	-	40° 54' 12.5"	74° 34' 35.6"	633.02		634.46	27-Feb-01	-	7.42	-	627.04	-	-
WP-C3	Area C Well Point	South 58.35 East 163.76	ROY F. WESTON	1993	-	-	-	-	-	-	-	-	40° 54' 12.4"	74° 34' 36.4"	631.00		632.64	27-Feb-01	-	5.70	-	626.94	-	-
WP-C4	Area C Well Point	South 2.11 East 183.73	ROY F. WESTON	1993	-	-	-	-	-	-	-	-	40° 54' 12.8"	74° 34' 35.9"	632.44		633.27	27-Feb-01	-	6.50	-	626.77	-	-

FOOTNOTES

- (1) Elevation measured at the top of a 3.33 ft. Staff gauge. Water depth based on a visual observation of the water level on the Staff gauge.
- (2) Corrected water level elevations utilize an average specific gravity of 0.9363 (RMT, Inc. product sampling in October 1999 @ MW-1(R); EFR-11 & WP-A8)
- (3) Wells included the quarterly sampling program. Depth to water recorded before purging
- (4) Wells installed during new RI efforts per NJDEP and EPA request to further delineate MV19/Hot Spot 1 Area
- (5) No boring log or well construction diagram available. Well specific information determined from Weston Geologic Cross Section
- (6) "-" in the Quarterly Measurement Information section of this database indicates that the presence of free product was NOT detected at any measurable thickness and therefore did not generate a product elevation, product thickness nor require water level elevation to be corrected
- (7) "-" in the Well Installation and Construction Information section indicates that well construction logs were not available for review

LEGEND

- S: Shallow Aquifer System
- I: Intermediate Aquifer System
- D: Deep Aquifer System
- R: Replacement Well
- NAS: Not Assessable
- REM: Removed

GENERAL NOTES

All WP series wells finished elevation is 2 feet above nominal grade. Total depth of well only accounts for subsurface structure  
 Wells MW-1A, MW5, MW-7, MW-10, MW-11, MW-11D, MW-14D, MW-17D, MW-18D, MW-22, MW-24, MW-25, WP-88, Wp-D1, PZ-6A, PZ-2A(R), PZ-2AS, RW-1 have been abandoned  
 Wells MW-11(R), MW11-D(R), MW-1(R), MW-2(R), MW-6(R), MW-22(R), and MW-25(R) are replacement wells

## **Appendix A**

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## **Report Certification**

CERTIFICATION

In accordance with N.J.A.C. 7:26E-1.5(a):

"I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Cristopher R. Anderson

PRINTED NAME

Director of Environmental Affairs

TITLE

L.E Carpenter Company

COMPANY

Cristopher Anderson

SIGNATURE

4/30/01

DATE

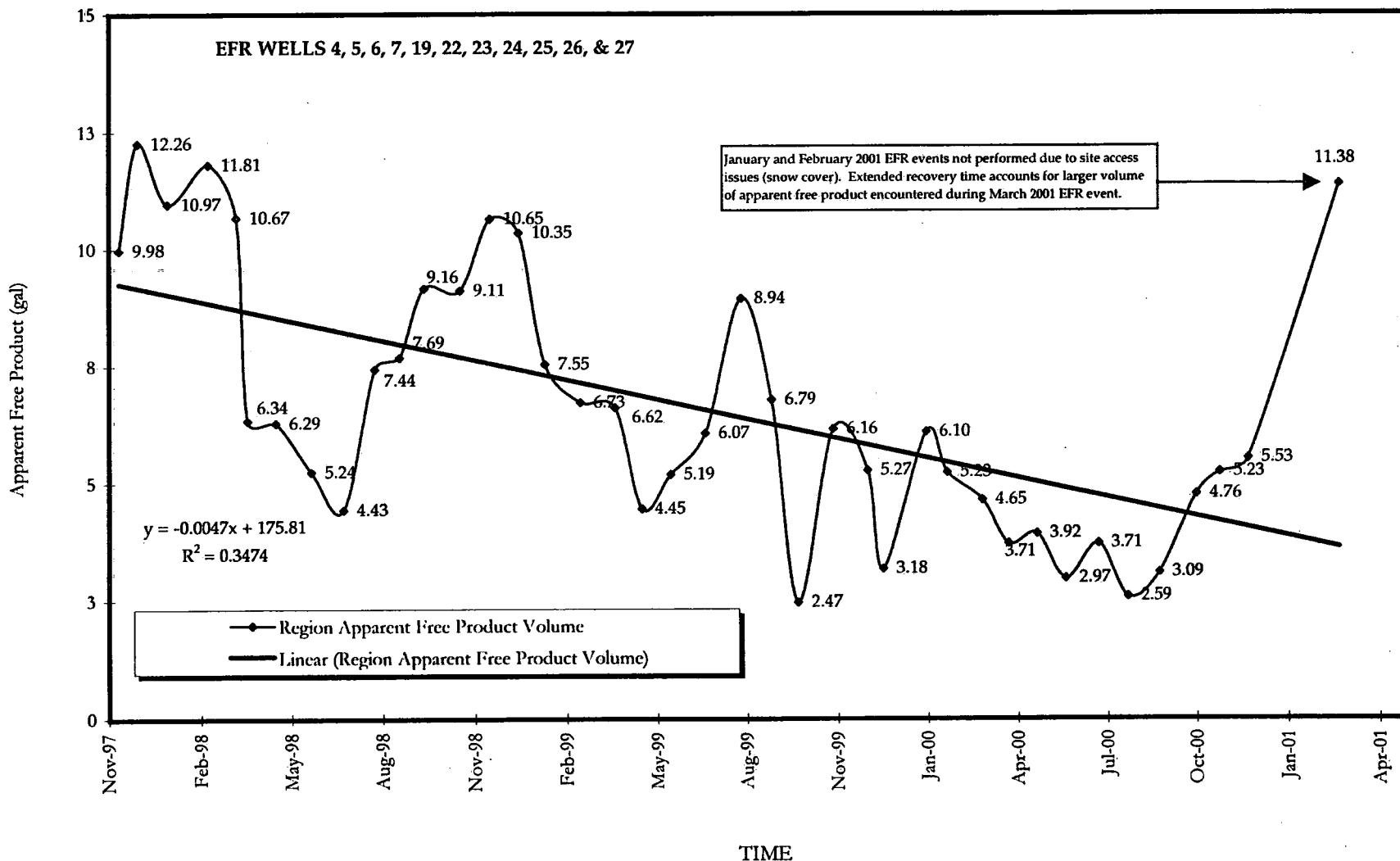
## **Appendix B**

# **Apparent Free Product Volume Trend Charts**

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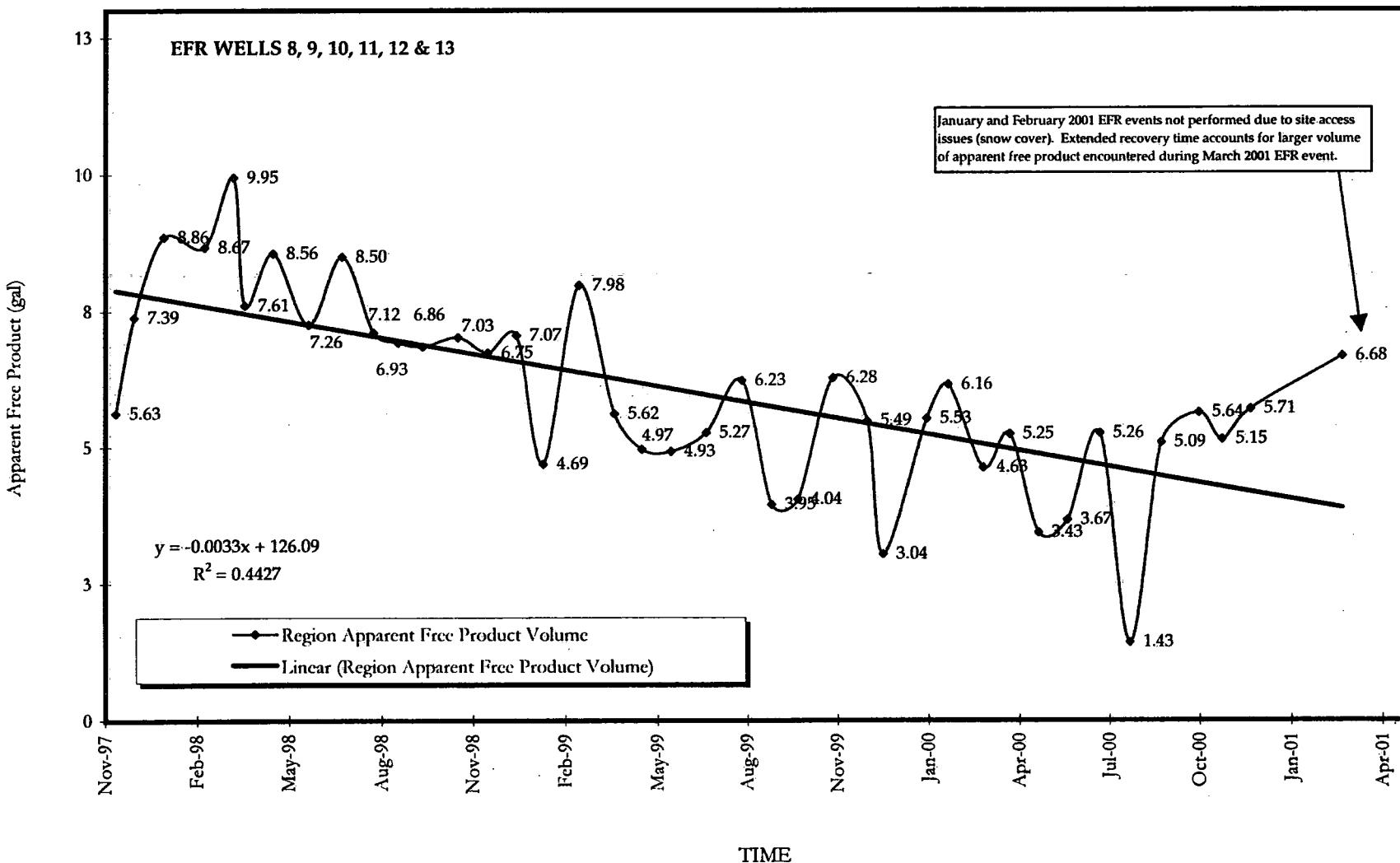
L.E. Carpenter and Company  
West-Central Region of Free Product

Apparent Free Product Volume vs. Time  
Through 1st Quarter 2001



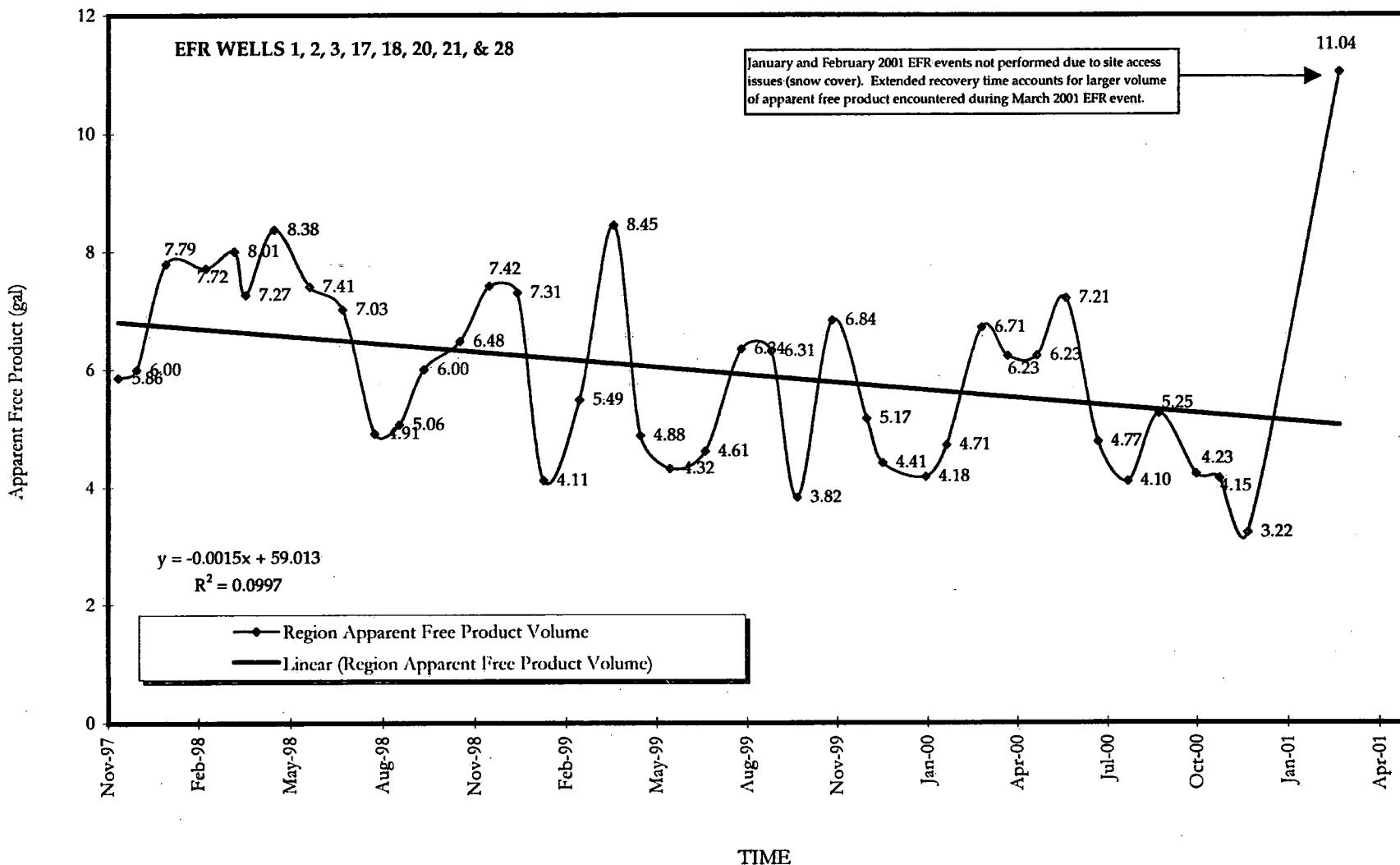
L.E. Carpenter and Company  
East-Central Region of Free Product

**Apparent Free Product Volume vs. Time**  
**Through 1st Quarter 2001**



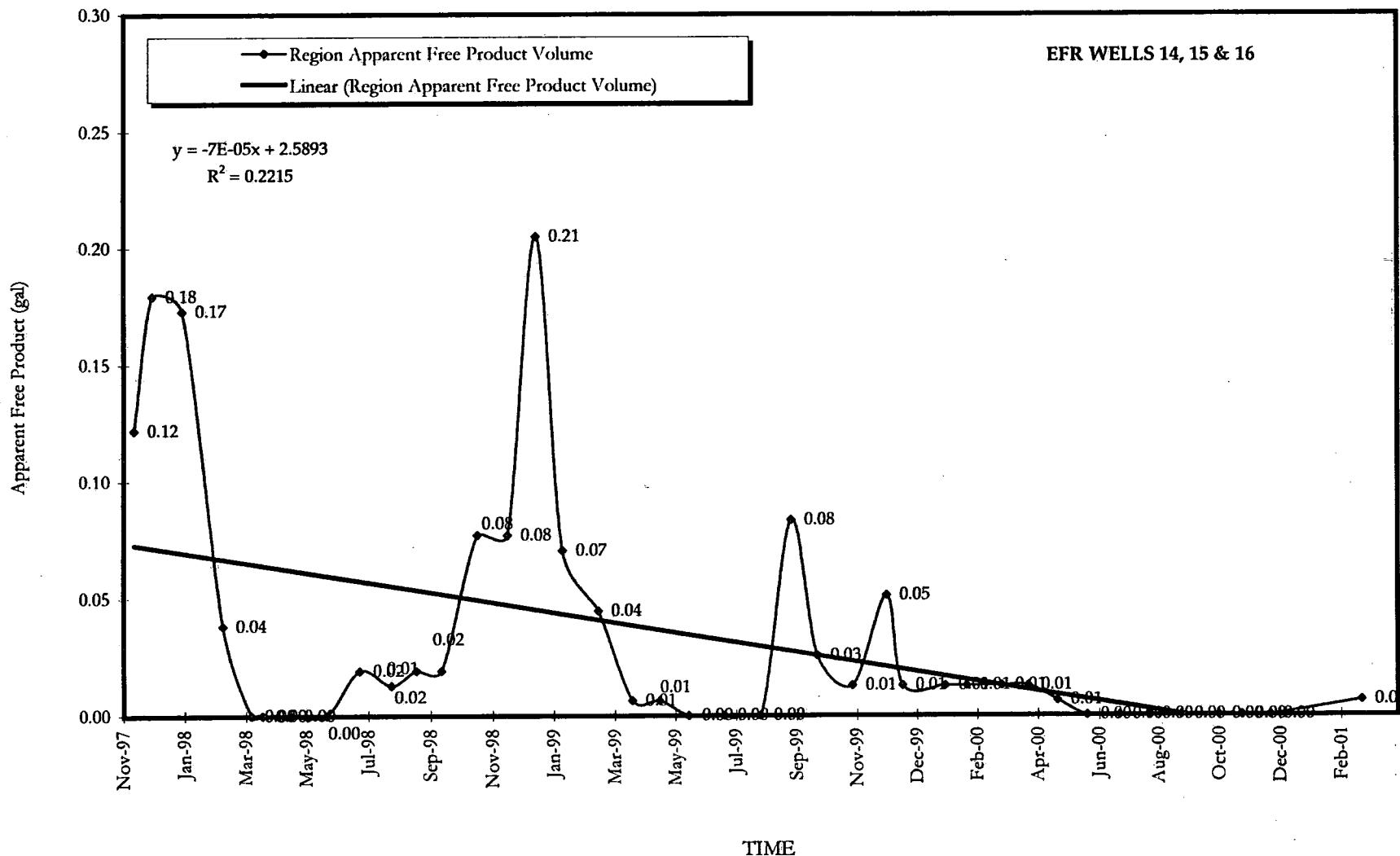
**L.E. Carpenter and Company**  
**Western Region of Free Product**

**Apparent Free Product Volume vs. Time**  
**Through 1st Quarter 2001**



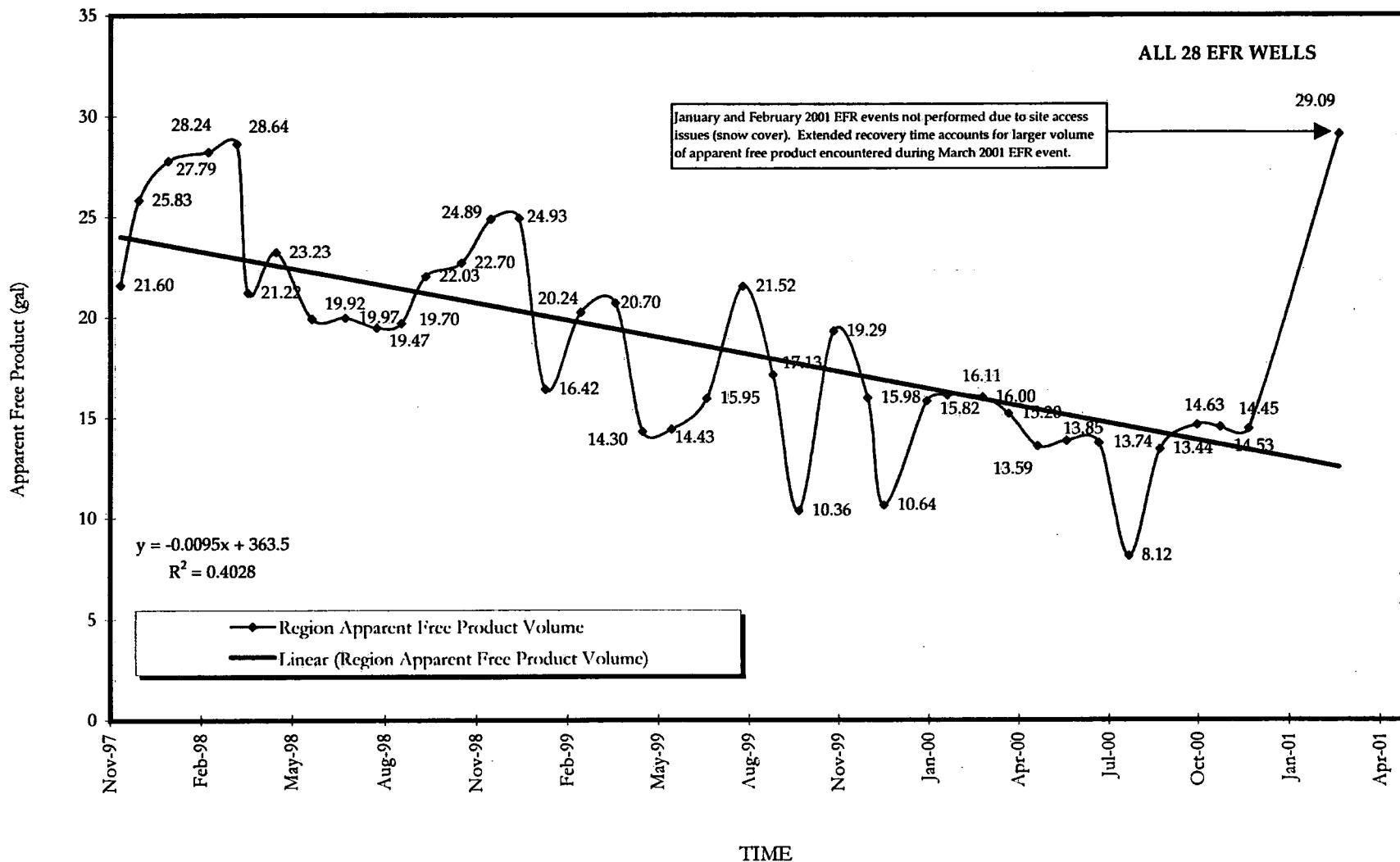
L.E. Carpenter and Company  
Eastern Region of Free Product

Apparent Free Product Volume vs. Time  
Through 1st Quarter 2001



L.E. Carpenter and Company  
Total Site Free Product

Apparent Free Product Volume vs. Time  
Through 1st Quarter 2001



## **Appendix C**

# **Monitoring Well Sampling Data**

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## Monitoring Well Data

Client: Residual Management Tech.Project: LE CarpenterJob No: I 524Date Sampled: 2/27/01Analyst: R. Toogood

Well ID	MW15s	MW15I	MW11d	MW14I	MW14s	MW22	MW25	MW21	MW4	WP-B7
Depth to Water From TOC feet (before purging)	10.47	10.35	5.05	2.49	3.05	2.66	2.04	3.35	6.00	3.78
Depth to Water From TOC feet (after purging)	10.52	10.35	5.18	2.60	3.15	6.61	3.05	3.40	7.21	5.75
Depth to Water From TOC feet (before sampling)	10.46	10.35	5.08	2.49	3.05	2.75	2.21	3.35	6.05	4.09
Depth to Bottom From TOC feet	19.48	40.14	161.25	43.32	13.17	8.81	9.11	14.68	18.31	11.11
PID Reading from Well Casing (ppm)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
pH before Purge	6.41	7.43	7.81	7.79	7.21	6.88	6.98	7.23	5.11	6.70
Temp. before Purge (°C)	7.9	8.1	5.9	8.7	10.6	5.4	5.8	8.2	5.0	4.4
Diss. Oxygen before Purge (ppm)	9.59	7.48	7.24	3.42	1.09	0.68	0.83	1.89	2.05	1.57
Cond. before Purge (umhos/cm)	178	358	224	158	191	160	145	194	235	132
Water Volume in Well (gal.)	5.88	4.86	25.49	6.66	6.61	1.00	1.53	7.39	2.00	1.19
Purge Method	Peristaltic Pump									
Purge Start Time	9:57	9:54	10:45	12:20	12:25	12:30	12:58	13:07	11:34	12:53
Purge End Time	10:20	10:22	12:08	12:46	12:44	12:34	13:03	13:26	11:42	13:00
Purge Rate (gpm)	0.8	0.5	1.0	0.8	1.1	0.8	0.8	1.2	0.8	0.6
Volume Purged (gal.)	18	15	77	20	20	4	4	23	7	4
pH after Purge	6.40	6.44	7.48	7.84	6.98	6.85	6.96	6.21	5.77	6.58
Temp. after Purge (°C)	8.9	11.0	9.5	8.9	10.9	6.0	5.6	8.3	5.9	4.6
Diss. Oxygen after Purge (ppm)	4.43	1.32	3.67	2.75	0.63	0.73	0.79	2.89	1.88	1.07
Cond. after Purge (umhos/cm)	282	396	144	172	188	155	147	257	162	137
pH after Sample	6.57	6.81	7.76	7.62	6.55	6.82	6.97	6.75	5.81	6.49
Temp. after Sample (°C)	8.3	9.6	8.6	8.9	10.9	5.7	4.2	8.2	5.0	3.5
Diss. Oxygen after Sampling (ppm)	9.09	1.53	4.66	3.06	1.07	0.93	4.13	2.40	1.82	2.72
Cond. after Sample (umhos/cm)	178	391	148	175	226	148	142	253	151	136
Sampling Method	Teflon Bailer									
Time of Sampling	10:25	10:31	12:10	13:45	13:40	13:50	13:55	13:28	11:45	14:07

## **Appendix D**

### **MW-22R & MW-25R Groundwater Concentration Trend Analysis**

---

**MW-22R**  
**BTEX and DEHP Concentration(s) Trend Analysis**

Sampling Date(s)	ANALYTE				
	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	DEHP (ug/L)
21-Feb-95	ND	57	ND	260	6500
13-Jun-95	ND	311	ND	955	380
13-Sep-95	ND	171	ND	693	NS
07-Dec-95	ND	123	ND	494	320
17-Sep-96	ND	359	ND	1320	NS
12-Dec-96	ND	320	ND	1330	ND
14-Aug-97	ND	5,730	ND	32,900	7,500
03-Oct-97	ND	11,400	348	66,000	NS
12-Mar-98	ND	4,070	348	20,600	NS
26-Aug-98	ND	2,260	ND	11,300	5,800
28-Aug-98	ND	1,880	ND	10,300	NS
18-Dec-98	ND	1,650	ND	7,230	1,100
21-Jan-99	ND	18	ND	84	NS
15-Apr-99	ND	1,600	ND	7,600	670
22-Jul-99	ND	1,200	ND	5,200	NS
25-Oct-99	ND	810	ND	3,300	1,200
17-Jan-00	ND	360	ND	1,400	NS
13-Apr-00	ND	820	ND	3,600	92
31-Jul-00	ND	1,000	ND	4,800	NS
30-Oct-00	ND	1,200	ND	6,200	5,100
27-Feb-01	ND	1,900	ND	9,000	NS
<b>NJGWQS (ug/l)</b>	1	700	1000	40	30
<b>ROD Discharge Criteria (ug/l)</b>	1	350	500	20	30

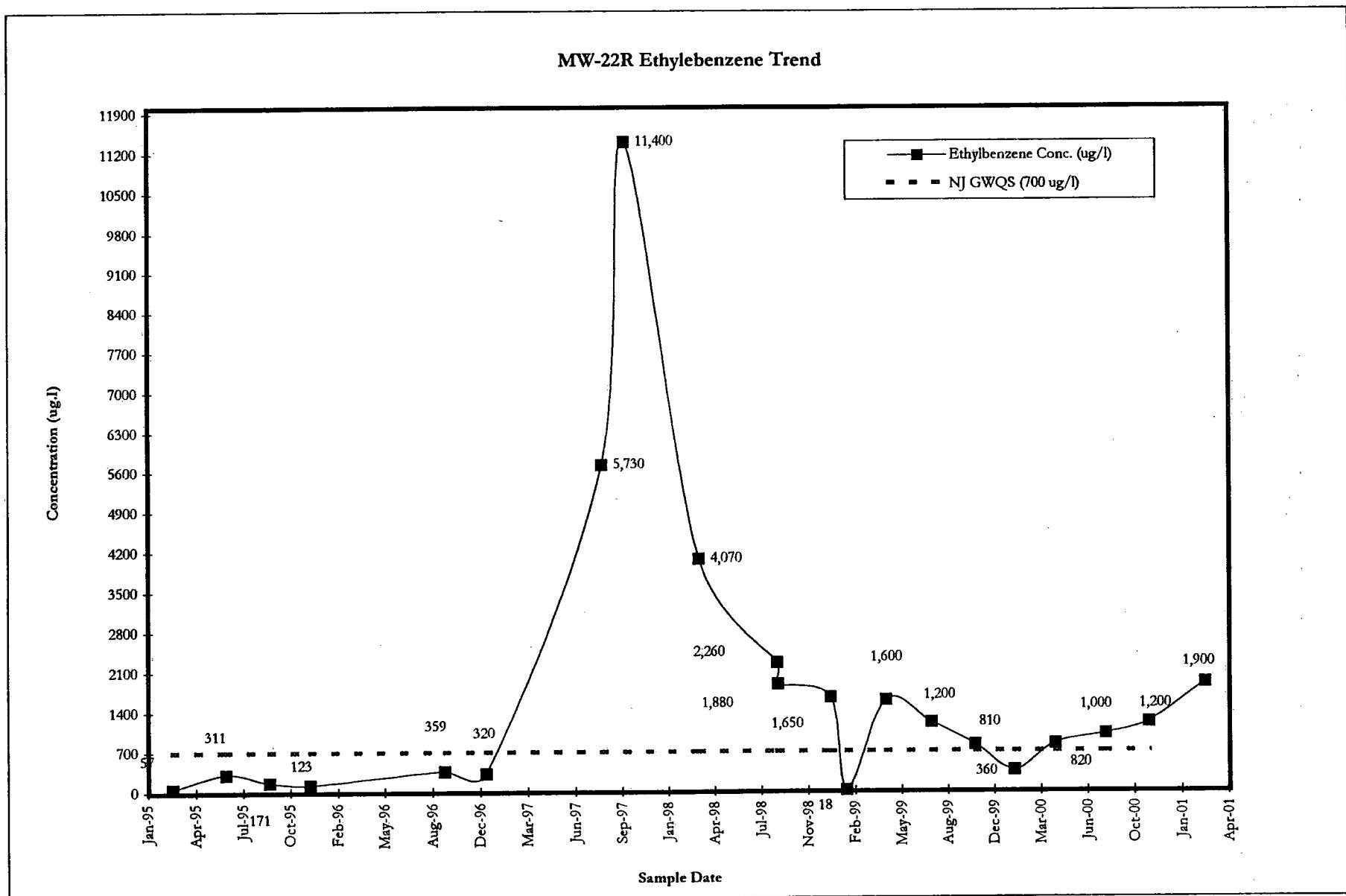
**NOTES**

Concentrations in bold exceed both the ROD discharge criteria and NJDEP GWQS

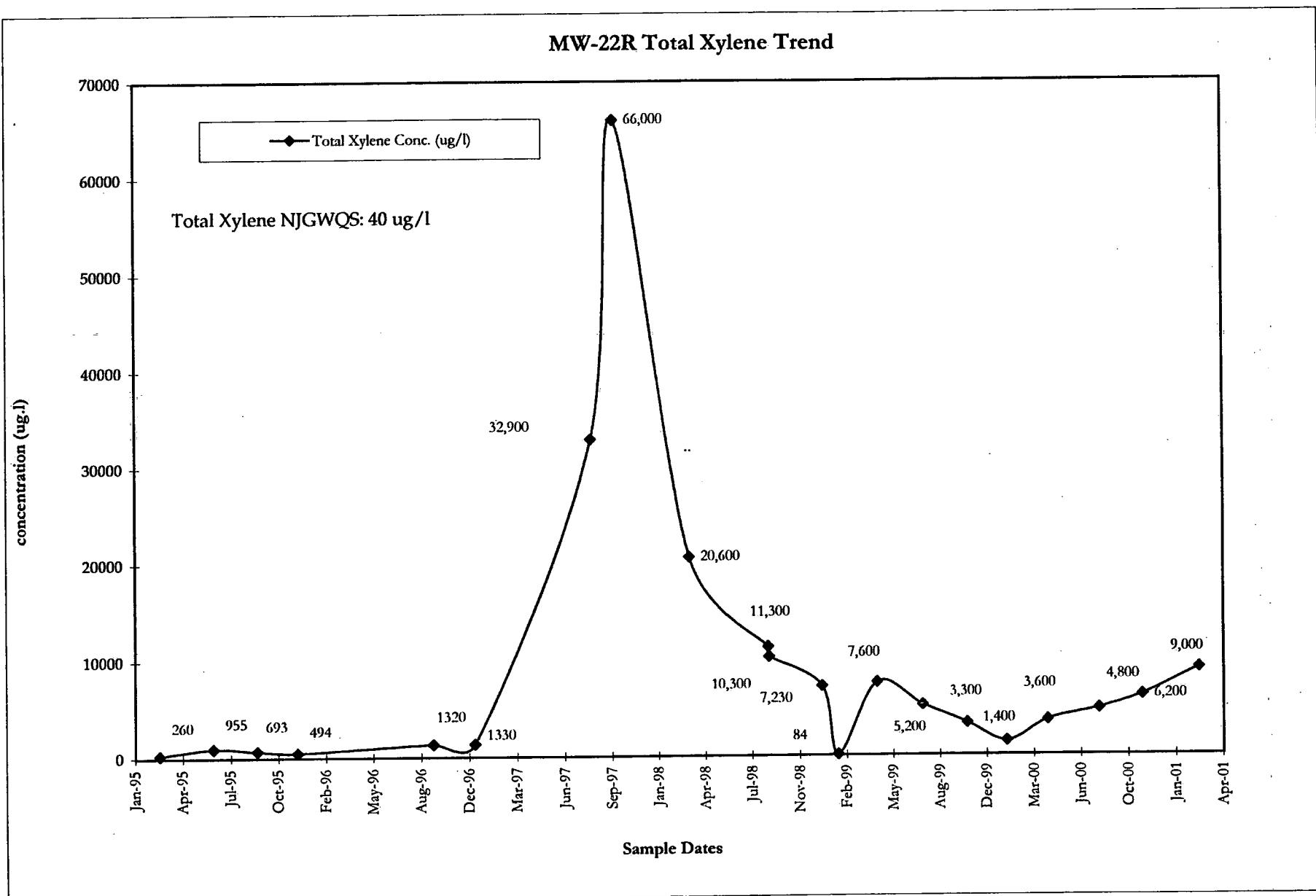
ND = Not detected above method detection limits

NS = Not Sampled

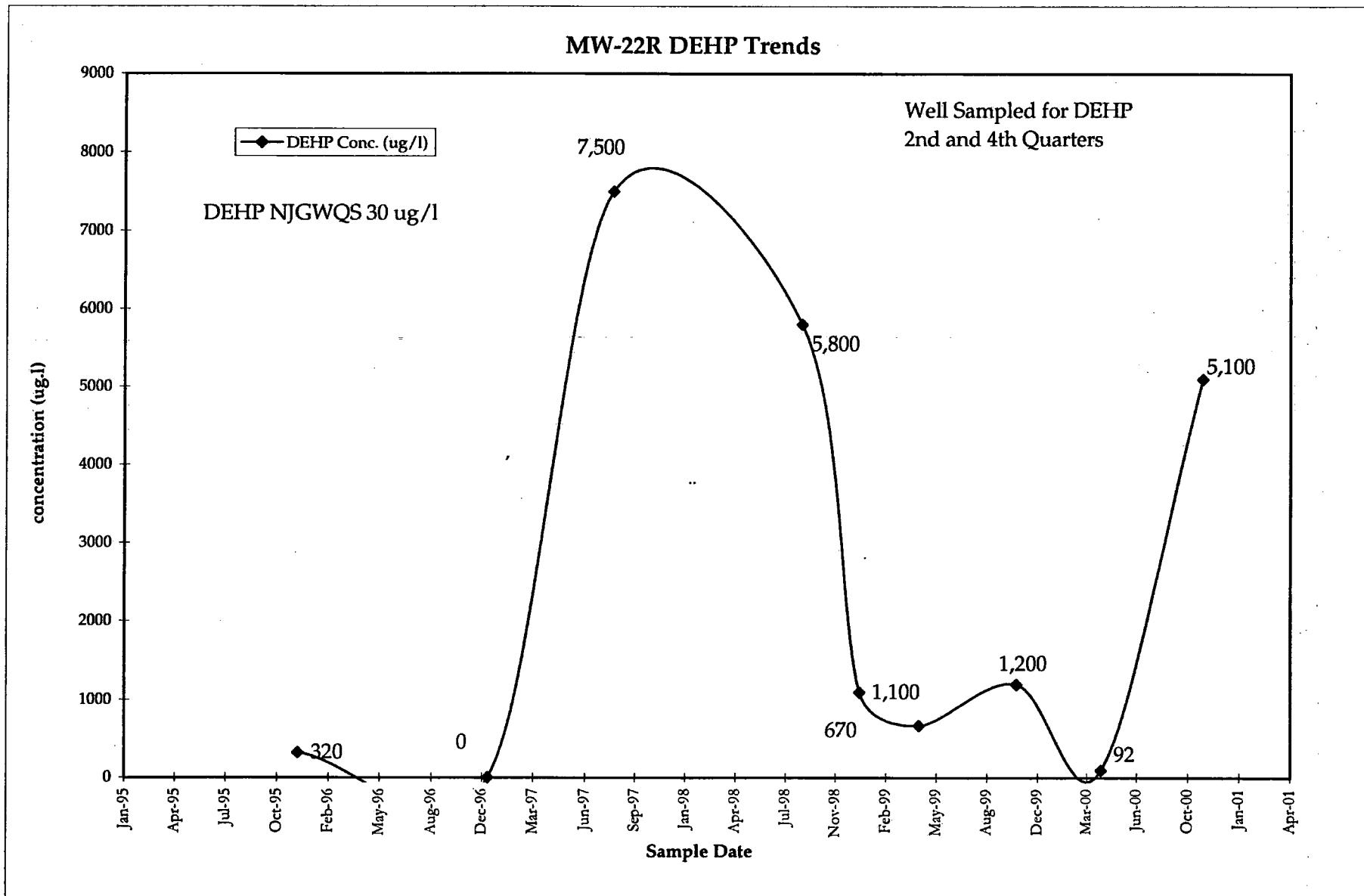
MW-22R  
CONTAMINANT OF CONCERN  
*Concentration vs. Time*



MW-22R  
CONTAMINANTS OF CONCERN  
*Concentration vs. Time*



MW-22R  
Contaminants of Concern  
Concentration vs. Time



**MW-25R**  
**BTEX and DEHP Concentration(s) Trend Analysis**

Sampling Date(s)	ANALYTE				
	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	DEHP (ug/L)
01-Apr-95	ND	ND	ND	ND	1.6
01-Jul-95	ND	ND	ND	ND	NS
07-Dec-95	ND	ND	ND	ND	<b>68</b>
17-Sep-96	ND	0.34	ND	2.2	NS
12-Dec-96	ND	ND	ND	ND	ND
01-Jan-97	ND	ND	ND	ND	NS
01-Apr-97	ND	13.5	ND	<b>89</b>	<b>63</b>
01-Jul-97	ND	4.1	ND	<b>30.7</b>	NS
12-Mar-98	ND	0.33	ND	1.5	NS
01-Apr-98	ND	ND	ND	ND	5.3
28-Aug-98	ND	ND	ND	ND	NS
18-Dec-98	ND	ND	ND	ND	1.9
21-Jan-99	ND	ND	ND	ND	ND
15-Apr-99	ND	ND	ND	14	ND
22-Jul-99	ND	0.39	ND	1.4	9.6
25-Oct-99	ND	ND	ND	ND	ND
17-Jan-00	ND	ND	ND	ND	ND
13-Apr-00	ND	ND	ND	ND	ND
31-Jul-00	ND	ND	ND	ND	ND
30-Oct-00	ND	0.33	ND	1.1	3.4
27-Feb-01	ND	ND	ND	ND	1.9
<b>NJGWQS (ug/l)</b>	NA	700	1000	40	30
<b>ROD Discharge Criteria (ug/l)</b>	NA	350	500	20	30

**NOTES**

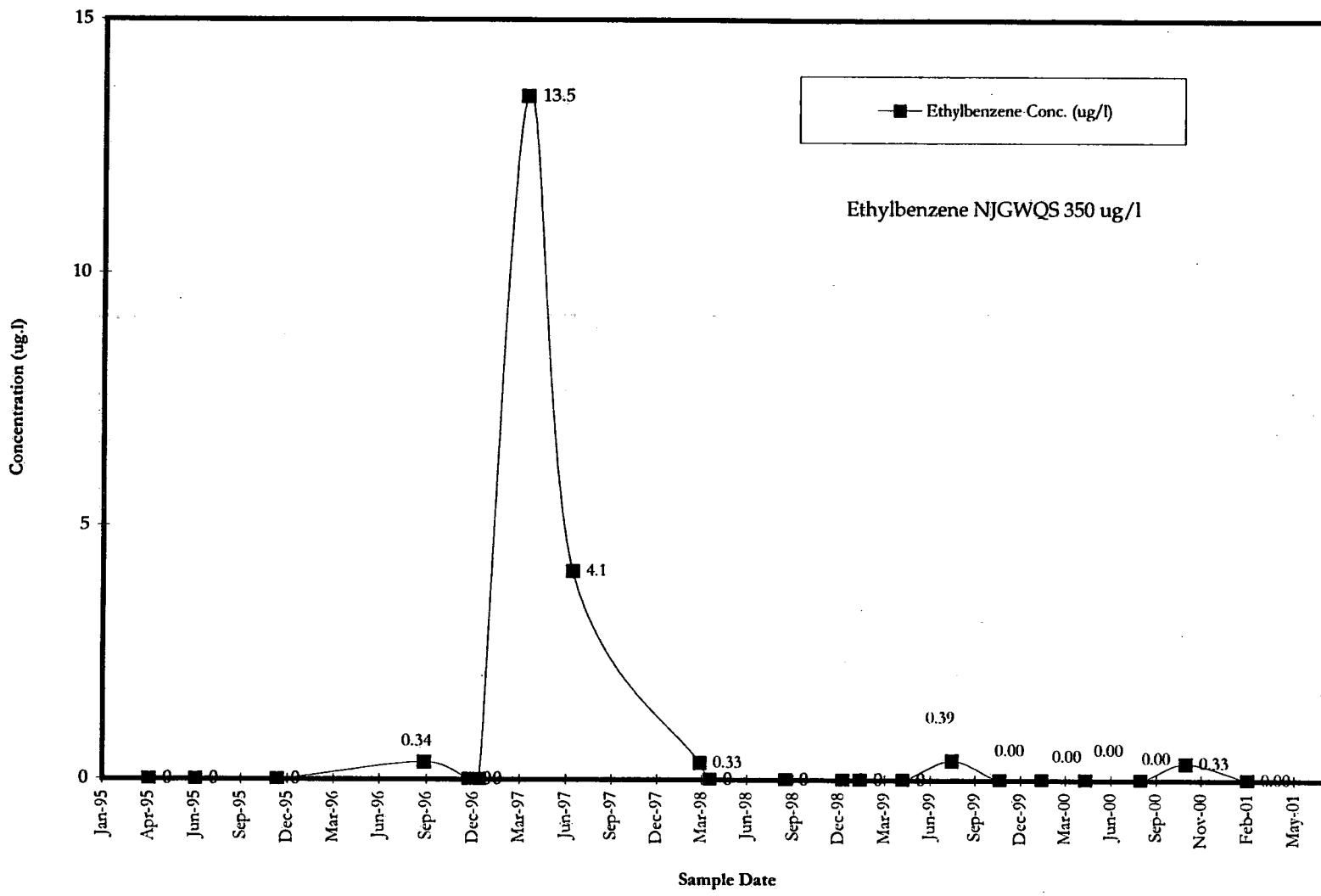
Concentrations in bold exceed both the ROD discharge criteria and NJDEP GWQS

ND = Not detected above method detection limits

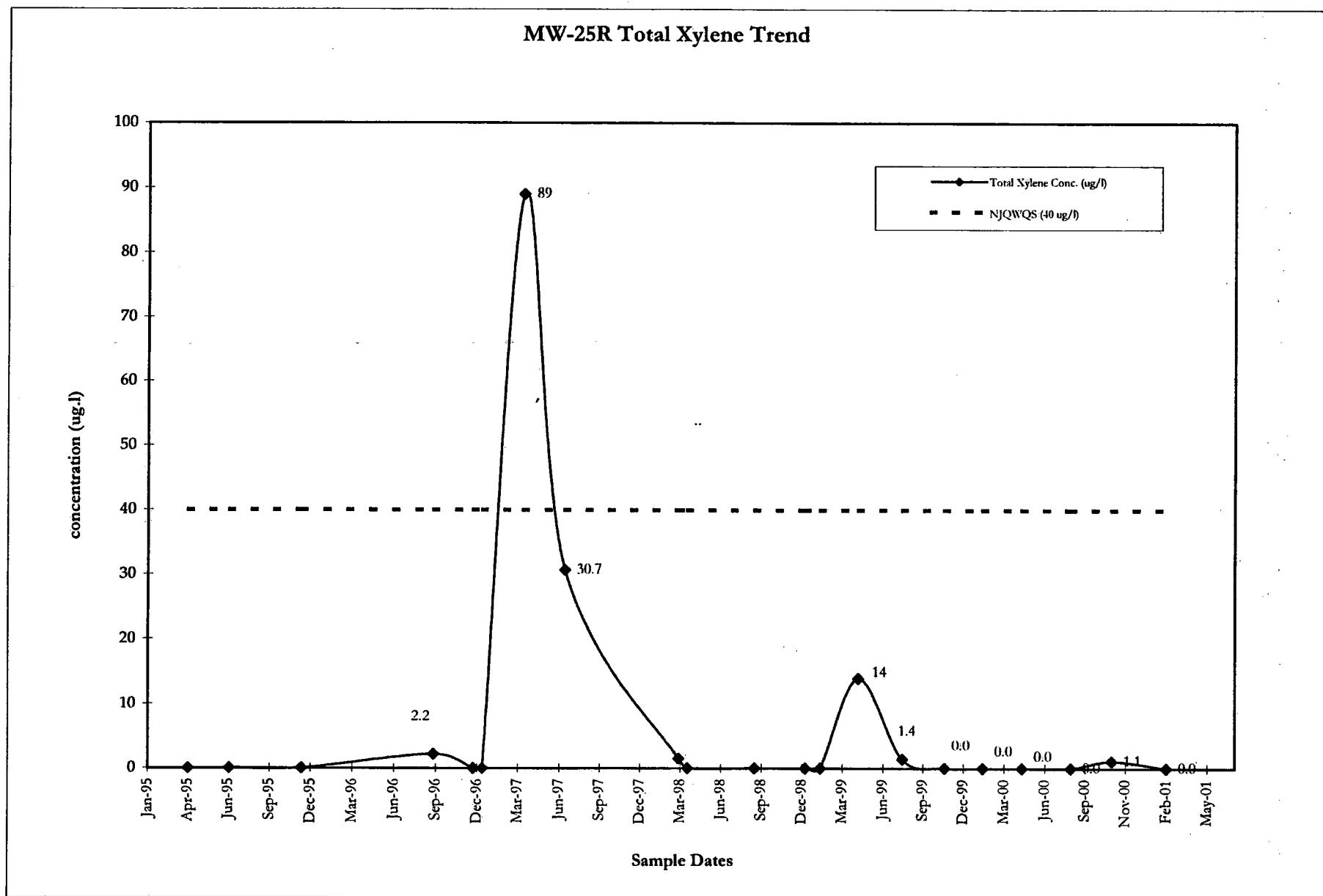
NS = Not Sampled

MW-25R  
CONTAMINANT OF CONCERN  
*Concentration vs. Time*

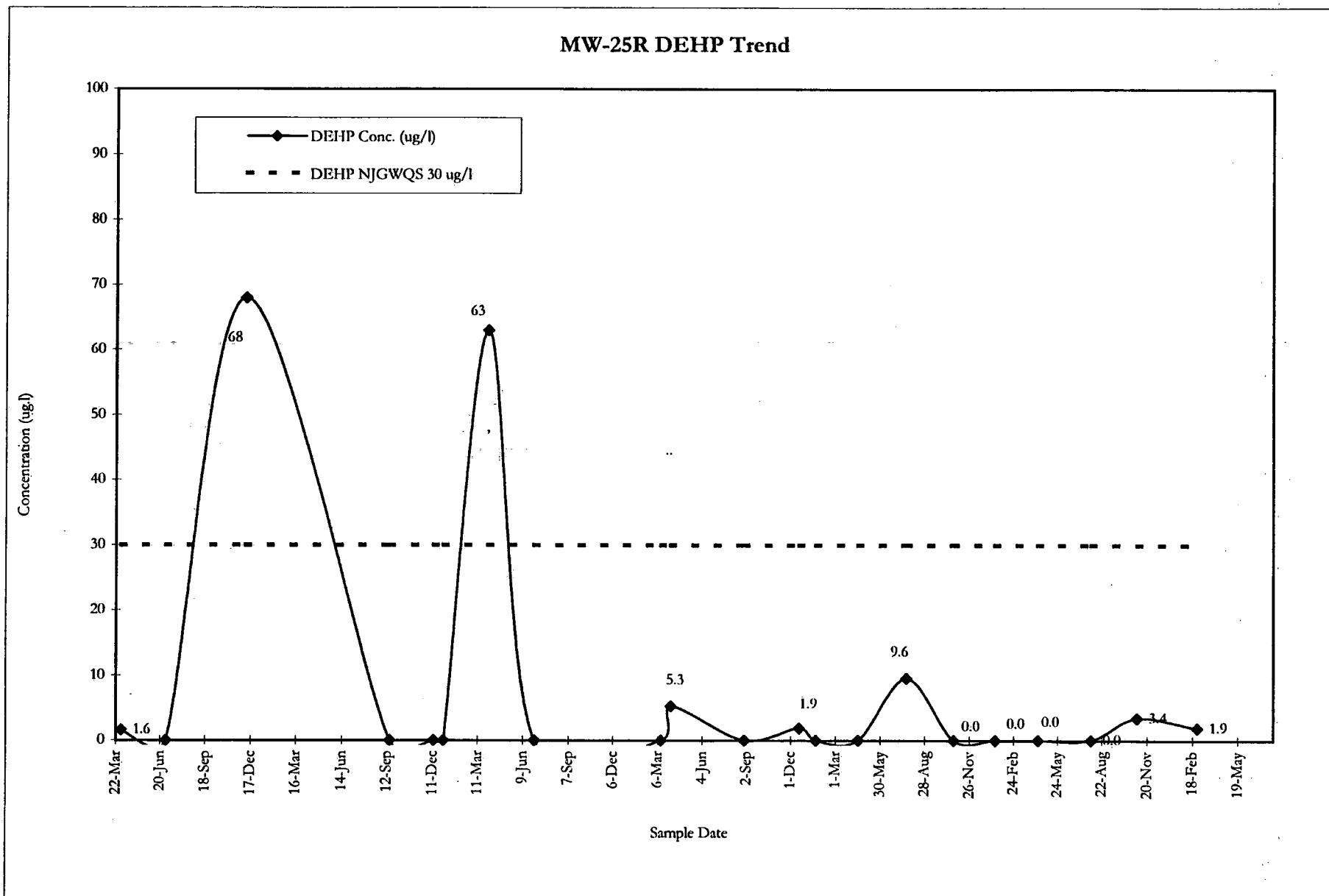
**MW-25R Ethylebenzene Trend**



MW-25R  
CONTAMINANTS OF CONCERN  
*Concentration vs. Time*



MW-25R  
CONTAMINANT OF CONCERN  
*Concentration vs. Time*



**Appendix E**  
**Laboratory Report**  
**Severn Trent Services, STL Edison**

---

SEVERN  
TRENT  
SERVICES

STL Edison  
777 New Durham Road  
Edison, NJ 08817

March 19, 2001

Tel: 732-549-3900  
Fax: 732-549-3679  
[www.stl-inc.com](http://www.stl-inc.com)

Residuals Management Technologies, Inc.  
222 South Riverside Plaza  
Suite 280  
Chicago, IL 60606

Attention: Mr. Nick Clevett

Re: I524 - L.E. Carpenter

Dear Mr Clevett:

Enclosed are the results you requested for the following sample(s) received at our laboratory on February 27, 2001:

<u>Lab No.</u>	<u>Client ID</u>	<u>Analysis Required</u>
260045	Trip_Blank	bis-2-Ethylhexylphthalate
260046	MW15S	BTEX (GC)
260047	MW15I	BTEX (GC)
260048	MW11D	BTEX (GC) bis-2-Ethylhexylphthalate
260049	MW14I	BTEX (GC)
260050	MW14S	BTEX (GC) bis-2-Ethylhexylphthalate
260051	MW22R	BTEX (GC)

<u>Lab No.</u>	<u>Client ID</u>	<u>Analysis Required</u>
260052	MW25	BTEX (GC) bis-2-Ethylhexylphthalate
260053	MW21	BTEX (GC) bis-2-Ethylhexylphthalate
260054	MW4	BTEX (GC)
260055	WP-B7	BTEX (GC) bis-2-Ethylhexylphthalate
260056	MW11DD	bis-2-Ethylhexylphthalate
260057	Field_Blank	BTEX (GC) bis-2-Ethylhexylphthalate

An invoice for our services is also enclosed. If you have any questions please contact your Project Manager, Paul Simms, at (732) 549-3900.

Very truly yours,

  
Michael J. Urban  
Laboratory Manager

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Client ID: Trip\_Blank  
Site: L.E. Carpenter

Lab Sample No: 260045  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Extracted: 03/03/01  
Date Analyzed: 03/12/01  
GC Column: DB-5  
Instrument ID: BNAMS8.i  
Lab File ID: aa3847.d

Matrix: WATER  
Level: LOW  
Sample Volume: 1000 ml  
Extract Final Volume: 2.0 ml  
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS  
METHOD 625

<u>Parameter</u>	<u>Analytical Result</u>	<u>Method Detection Limit</u>
	<u>Units: ug/l</u>	<u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	0.6B	0.4

Client ID: MW15S  
Site: L.E. Carpenter

Lab Sample No: 260046  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Analyzed: 03/02/01  
GC Column: DB624  
Instrument ID: VOAGC2.i  
Lab File ID: hpid4702.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 mL  
Final Volume: 0.0 mL  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID  
METHOD 602

Parameter

	<u>Analytical Result</u>	<u>Method Detection Limit</u>
	<u>Units:</u> ug/l	<u>Units:</u> ug/l
Benzene	ND	0.25
Toluene	ND	0.27
Ethylbenzene	ND	0.27
Xylene (Total)	ND	0.25

Client ID: MW15I  
Site: L.E. Carpenter

Lab Sample No: 260047  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Analyzed: 03/02/01  
GC Column: DB624  
Instrument ID: VOAGC2.i  
Lab File ID: hpid4703.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 mL  
Final Volume: 0.0 mL  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID  
METHOD 602

<u>Parameter</u>	<u>Analytical Result</u>	<u>Method Detection</u>
	<u>Units: ug/l</u>	<u>Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.25
Toluene	ND	0.27
Ethylbenzene	ND	0.27
Xylene (Total)	ND	0.25

Client ID: MW11D  
Site: L.E. Carpenter

Lab Sample No: 260048  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Analyzed: 03/02/01  
GC Column: DB624  
Instrument ID: VOAGC2.i  
Lab File ID: hpid4704.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 mL  
Final Volume: 0.0 mL  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID  
METHOD 602

Parameter

Benzene  
Toluene  
Ethylbenzene  
Xylene (Total)

Analytical Result  
Units: ug/l

Method Detection  
Limit  
Units: ug/l

ND	0.25
ND	0.27
ND	0.27
ND	0.25

Client ID: MW11D  
Site: L.E. Carpenter

Lab Sample No: 260048  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Extracted: 03/03/01  
Date Analyzed: 03/12/01  
GC Column: DB-5  
Instrument ID: BNAMS8.i  
Lab File ID: aa3848.d

Matrix: WATER  
Level: LOW  
Sample Volume: 980 ml  
Extract Final Volume: 2.0 ml  
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS  
METHOD 625

Parameter

Analytical Result  
Units: ug/l

Method Detection  
Limit  
Units: ug/l

bis(2-Ethylhexyl)phthalate                    0.8B                    0.4

Client ID: MW14I  
Site: L.E. Carpenter

Lab Sample No: 260049  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Analyzed: 03/02/01  
GC Column: DB624  
Instrument ID: VOAGC2.i  
Lab File ID: hpid4705.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 mL  
Final Volume: 0.0 mL  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID  
METHOD 602

Parameter

Benzene  
Toluene  
Ethylbenzene  
Xylene (Total)

Analytical Result  
Units: ug/l

Method Detection  
Limit  
Units: ug/l

ND 0.25  
ND 0.27  
ND 0.27  
ND 0.25

Client ID: MW14S  
Site: L.E. Carpenter

Lab Sample No: 260050  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Analyzed: 03/02/01  
GC Column: DB624  
Instrument ID: VOAGC2.i  
Lab File ID: hpid4706.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Final Volume: 0.0 mL  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID  
METHOD 602

<u>Parameter</u>	<u>Analytical Result</u>	<u>Method Detection Limit</u>
	<u>Units: ug/l</u>	<u>Units: ug/l</u>
Benzene	ND	0.25
Toluene	ND	0.27
Ethylbenzene	ND	0.27
Xylene (Total)	ND	0.25

Client ID: MW14S  
Site: L.E. Carpenter

Lab Sample No: 260050  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Extracted: 03/03/01  
Date Analyzed: 03/12/01  
GC Column: DB-5  
Instrument ID: BNAMS8.i  
Lab File ID: aa3849.d

Matrix: WATER  
Level: LOW  
Sample Volume: 980 ml  
Extract Final Volume: 2.0 ml  
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS  
METHOD 625

<u>Parameter</u>	<u>Analytical Result</u>	<u>Method Detection Limit</u>
	<u>Units: ug/l</u>	<u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	2.4B	0.4

Client ID: MW22R  
Site: L.E. Carpenter

Lab Sample No: 260051  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Analyzed: 03/02/01  
GC Column: DB624  
Instrument ID: VOAGC2.i  
Lab File ID: hpid4707.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 mL  
Final Volume: 0.0 mL  
Dilution Factor: 200.0

VOLATILE ORGANICS - GC/PID  
METHOD 602

Parameter

Analytical Result  
Units: ug/l

Method Detection  
Limit  
Units: ug/l

Benzene	ND	50
Toluene	ND	54
Ethylbenzene	1900	54
Xylene (Total)	9000	50

Client ID: MW25  
Site: L.E. Carpenter

Lab Sample No: 260052  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Analyzed: 03/03/01  
GC Column: DB624  
Instrument ID: VOAGC2.i  
Lab File ID: hpid4710.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 mL  
Final Volume: 0.0 mL  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID  
METHOD 602

<u>Parameter</u>	<u>Analytical Result</u>	<u>Method Detection Limit</u>
	<u>Units: ug/l</u>	<u>Units: ug/l</u>
Benzene	ND	0.25
Toluene	ND	0.27
Ethylbenzene	ND	0.27
Xylene (Total)	ND	0.25

Client ID: MW25  
Site: L.E. Carpenter

Lab Sample No: 260052  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Extracted: 03/03/01  
Date Analyzed: 03/13/01  
GC Column: DB-5  
Instrument ID: BNAMS8.i  
Lab File ID: aa3850.d

Matrix: WATER  
Level: LOW  
Sample Volume: 970 ml  
Extract Final Volume: 2.0 ml  
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS  
METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection Limit</u> <u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	1.9B	0.5

Client ID: MW21  
Site: L.E. Carpenter

Lab Sample No: 260053  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Analyzed: 03/03/01  
GC Column: DB624  
Instrument ID: VOAGC2.i  
Lab File ID: hpid4711.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 mL  
Final Volume: 0.0 mL  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID  
METHOD 602

<u>Parameter</u>	<u>Analytical Result</u>	<u>Method Detection Limit</u>
	<u>Units: ug/l</u>	<u>Units: ug/l</u>
Benzene	ND	0.25
Toluene	ND	0.27
Ethylbenzene	ND	0.27
Xylene (Total)	ND	0.25

Client ID: MW21  
Site: L.E. Carpenter

Lab Sample No: 260053  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Extracted: 03/03/01  
Date Analyzed: 03/13/01  
GC Column: DB-5  
Instrument ID: BNAMS8.i  
Lab File ID: aa3851.d

Matrix: WATER  
Level: LOW  
Sample Volume: 980 ml  
Extract Final Volume: 2.0 ml  
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS  
METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection Limit</u> <u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	2.7B	0.4

Client ID: MW4  
Site: L.E. Carpenter

Lab Sample No: 260054  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Analyzed: 03/03/01  
GC Column: DB624  
Instrument ID: VOAGC2.i  
Lab File ID: hpid4712.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 mL  
Final Volume: 0.0 mL  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID  
METHOD 602

Parameter

Analytical Result  
Units: ug/l

Method Detection  
Limit  
Units: ug/l

Benzene	ND	0.25
Toluene	ND	0.27
Ethylbenzene	1.0	0.27
Xylene (Total)	3.7	0.25

Client ID: WP-B7  
Site: L.E. Carpenter

Lab Sample No: 260055  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Analyzed: 03/03/01  
GC Column: DB624  
Instrument ID: VOAGC2.i  
Lab File ID: hpid4713.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 mL  
Final Volume: 0.0 mL  
Dilution Factor: 2.0

VOLATILE ORGANICS - GC/PID  
METHOD 602

<u>Parameter</u>	<u>Analytical Result</u>	<u>Method Detection Limit</u>
	<u>Units: ug/l</u>	<u>Units: ug/l</u>
Benzene	ND	0.50
Toluene	ND	0.54
Ethylbenzene	6.2	0.54
Xylene (Total)	ND	0.50

Client ID: WP-B7  
Site: L.E. Carpenter

Lab Sample No: 260055  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Extracted: 03/03/01  
Date Analyzed: 03/13/01  
GC Column: DB-5  
Instrument ID: BNAMS8.i  
Lab File ID: aa3873.d

Matrix: WATER  
Level: LOW  
Sample Volume: 990 ml  
Extract Final Volume: 2.0 ml  
Dilution Factor: 50.0

SEMI-VOLATILE ORGANICS - GC/MS  
METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
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bis(2-Ethylhexyl)phthalate	4700	22
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Client ID: MW11DD  
Site: L.E. Carpenter

Lab Sample No: 260056  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Extracted: 03/03/01  
Date Analyzed: 03/13/01  
GC Column: DB-5  
Instrument ID: BNAMS8.i  
Lab File ID: aa3853.d

Matrix: WATER  
Level: LOW  
Sample Volume: 1000 ml  
Extract Final Volume: 2.0 ml  
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS  
METHOD 625

Parameter

Analytical Result  
Units: ug/l

Method Detection  
Limit  
Units: ug/l

bis(2-Ethylhexyl)phthalate                    0.9B                    0.4

Client ID: Field\_Blank  
Site: L.E. Carpenter

Lab Sample No: 260057  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Analyzed: 03/03/01  
GC Column: DB624  
Instrument ID: VOAGC2.i  
Lab File ID: hpid4714.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 mL  
Final Volume: 0.0 mL  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID  
METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.25
Toluene	ND	0.27
Ethylbenzene	ND	0.27
Xylene (Total)	ND	0.25

Client ID: **Field\_Blank**  
Site: L.E. Carpenter

Lab Sample No: 260057  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Extracted: 03/03/01  
Date Analyzed: 03/13/01  
GC Column: DB-5  
Instrument ID: BNAMS8.i  
Lab File ID: aa3854.d

Matrix: WATER  
Level: LOW  
Sample Volume: 950 ml  
Extract Final Volume: 2.0 ml  
Dilution Factor: 1.0

**SEMI-VOLATILE ORGANICS - GC/MS**  
**METHOD 625**

<u>Parameter</u>	<u>Analytical Result</u>	<u>Method Detection Limit</u>
	<u>Units: ug/l</u>	<u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	1.3B	0.5

**STL EDISON**

**777 New Durham Road  
Edison, New Jersey 08817  
Phone: (732) 549-3900 Fax: (732) 549-3679**

# **CHAIN OF CUSTODY / ANALYSIS REQUEST**

PAGE 1 OF 2

**Special Instructions** *incl. filing, bill of sale, etc.*

**Water Metals Filtered (Yes/No)?**

Relinquished by 1) <i>[Signature]</i>	Company <i>STC</i>	Date / Time <i>2/27/01 1400</i>	Received by 1) <i>Tankie Jd</i>	Company <i>STC</i>
Relinquished by 2)	Company	Date / Time 	Received by 2)	Company
Relinquished by 3)	Company	Date / Time 	Received by 3)	Company
Relinquished by 4)	Company	Date / Time 	Received by 4)	Company

## STL EDISON

777 New Durham Road  
 Edison, New Jersey 08817  
 Phone: (732) 549-3900 Fax: (732) 549-3679

## CHAIN OF CUSTODY / ANALYSIS REQUEST

PAGE 2 OF 2

Name ( for report and invoice ) <i>Mr. Nicholas J. Clewett</i>	Samplers Name ( Printed ) <i>R. Terrell T. Finneran</i>				Site/Project Identification <i>LP Corp., Inc.</i>												
Company <i>RMT, INC.</i>	P.O. #				State (Location of site): NJ: <input checked="" type="checkbox"/> NY: <input type="checkbox"/> Other:												
Address <i>222 South Riverside A Suite 600</i>	Analysis Turnaround Time				Regulatory Program:												
City <i>Chicago</i>	Standard <input checked="" type="checkbox"/>																
State <i>IL</i>	Rush Charges Authorized For:																
Phone	2 Week <input type="checkbox"/>																
Fax	1 Week <input type="checkbox"/>																
	Other <input type="checkbox"/>																
Sample Identification					ANALYSIS REQUESTED (ENTER 'X' BELOW TO INDICATE REQUEST)										LAB USE ONLY		
WP-B7	Date 2/27/01	Time 1407	Matrix A+T	No. of. Cont. 4	<i>B12x</i>		<i>DENH</i>										Project No: <i>SC/050</i>
MW 11 Pd				X													Job No: <i>I524</i>
Field Blank				X													Sample Numbers <i>260055</i>
																	<i>260056</i>
																	<i>260057</i>
Preservation Used: 1 = ICE, 2 = HCl, 3 = H <sub>2</sub> SO <sub>4</sub> , 4 = HNO <sub>3</sub> , 5 = NaOH					Soil:												
6 = Other _____					Water:										1, X	1	

## Special Instructions

Water Metals Filtered (Yes/No)?

1) <i>N. Clewett</i>	Company <i>STL</i>	Date / Time <i>2/27/01 1400</i>	Received by <i>Terry J. Finneran</i>	Company
2)	Company	Date / Time <i>2/27/01 1400</i>	Received by 2)	Company
3)	Company	Date / Time 1	Received by 3)	Company
4)	Company	Date / Time 1	Received by 4)	Company

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

Water Levels L.E. Carpenter Site Date: 2/27/01

Well ID	Product	Depth to Water	Well ID	Product	Depth to Water	Well ID	Product	Depth to Water
MW-1 (R)	9.25	9.46	WP-A3	Not Accessible	Snow covered	EFR-22	*	*
MW-2 (R)	N	6.20	WP-A4	10.30	12.89	EFR-23	*	*
MW-3	N	6.35	WP-A5	N	10.86	EFR-24	*	*
MW-4	N	6.00	WP-A6	N	10.85	EFR-25	*	*
MW-5 (R)	N	4.77	WP-A7	8.64	9.24	EFR-26	*	*
MW-8	N	2.42	WP-A8	11.32	14.69	EFR-27	*	*
MW-9	N	3.79	WP-A9	12.41	13.05	EFR-28	*	*
MW-11S	7.05	12.20	WP-B1	N	5.46			
MW-11IR	N	7.29	WP-B2	N	5.77			
MW-11DR	N	5.05	WP-B3	N	5.75			
MW-12R	N	7.30	WP-B4	6.47	(all products)			
MW-13S	N	4.39	WP-B5	N	4.81			
MW-13(R)	N	4.82	WP-B6	N	4.91			
MW-131	N	4.80	WP-B7	N	3.78			
MW-14S	N	3.05	WP-B10	N	6.68			
MW-14I	N	2.49	WP-C1	N	6.53			
MW-15S	N	10.47	WP-C2	N	7.42			
MW-15I	N	10.35	WP-C3	N	5.70			
MW-16S	N	7.36	WP-C4	N	6.50			
MW-16I	N	8.19	SG-D1	N	1.46			
MW-17S	N	8.34	SG-D2	N	0.98			
MW-18S	N	5.14	SG-D3	N	1.46			
MW-18I	N	4.70	SG-R1	N	1.84			
MW-19	N	11.44	SG-R2	N	1.44			
MW-19-1	N	11.24	SG-R3	N	0.86			
MW-19-2	N	11.34	RP-O2	*	*			
MW-19-3	N	12.06	RP-O3	*	*			
MW-19-4	N	9.76	RP-O4	*	*			
MW-19-5	N	11.49	EFR-1	*	*			
MW-19-6	N	9.15	EFR-2	*	*			
MW-19-7	Not Accessible	Show covered	EFR-3	*	*			
MW-19-8	N	8.85	EFR-4	*	*			
MW-20	N	8.59	EFR-5	*	*			
MW-21	N	3.35	EFR-6	*	*			
MW-22 (R)	N	2.66	EFR-7	*	*			
MW-23	N	2.31	EFR-8	*	*			
MW-25 (R)	N	2.04	EFR-9	*	*			
MW-26	N	7.25	EFR-10	*	*			
RW-1	10.95	11.12	EFR-11	*	*			
RW-2	N	5.76	EFR-12	*	*			
RW-3	N	5.71	EFR-13	*	*			
CW-1	N	6.42	EFR-14	*	*			
CW-3	N	7.65	EFR-15	*	*			
GEI-11	N	4.36	EFR-16	*	*			
GEI-2S	N	10.40	EFR-17	*	*			
GEI-2I	N	10.64	EFR-18	*	*			
GEI-3I	N	12.95	EFR-19	*	*			
WPA1	9.28	10.46	EFR-20	*	*			
WPA2	NA	NA	EFR-21	*	*			

\* Measurements Collected by RMT on later date

Monitoring Well Data

Client: Residual Management Tech.

Project: LE Carpenter

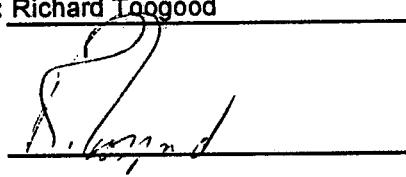
Date Sampled: 2/27/01

Job No.: 1524

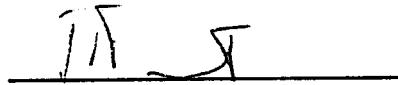
Name of Analyst: Richard Toogood

**Names & Signatures of**

Samplers: Richard Toogood



Ted Farnath



**INTERNAL CUSTODY RECORD  
AND  
LABORATORY CHRONICLE  
STL Edison**

**777 New Durham Road, Edison, New Jersey  
08817**

**Job No:** 1524

**Site:** L.E. Carpenter

**Client:** Residuals Management Technologies, Inc.

**BNAMS**

**WATER - 625**

Lab Sample ID	Date Sampled	Date Received	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
260045	2/27/2001	2/27/2001	2/27/2001	cf	3/20/01	12	6137
260048	2/27/2001	2/27/2001					
260050	2/27/2001	2/27/2001					
260052	2/27/2001	2/27/2001			3/30/01		
260053	2/27/2001	2/27/2001					
260055	2/27/2001	2/27/2001					
260056	2/27/2001	2/27/2001					
260057	2/27/2001	2/27/2001					

**INTERNAL CUSTODY RECORD  
AND  
LABORATORY CHRONICLE  
STL Edison**

777 New Durham Road, Edison, New Jersey  
08817

Job No: 1524

Site: L.E. Carpenter

Client: Residuals Management Technologies, Inc.

VOAGC

602

Lab Sample ID	Date Sampled	Date Received	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
<b>WATER</b>							
260046	2/27/2001	2/27/2001			3/2/01	JXZ	7151
260047	2/27/2001	2/27/2001					
260048	2/27/2001	2/27/2001					
260049	2/27/2001	2/27/2001					
260050	2/27/2001	2/27/2001					
260051	2/27/2001	2/27/2001					
260052	2/27/2001	2/27/2001			3/3/01		
260053	2/27/2001	2/27/2001					
260054	2/27/2001	2/27/2001					
260055	2/27/2001	2/27/2001					7152
260057	2/27/2001	2/27/2001					

## Analytical Methodology Summary

### Volatile Organics:

Unless otherwise specified, water samples are analyzed for volatile organics by purge and trap GC/MS as specified in EPA Method 624. Drinking water samples are analyzed by EPA Method 524.2. Solid samples are analyzed for volatile organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8260B. Water samples are analyzed for volatile organics by purge and trap GC/PID and GC/ELCD as specified in EPA Methods 601 and 602. Solid samples are analyzed by GC/PID and GC/ELCD in accordance with SW-846, 3rd Edition Method 8021B.

### Acid and Base/Neutral Extractable Organics:

Unless otherwise specified, water samples are analyzed for acid and/or base/neutral extractable organics by GC/MS in accordance with EPA Method 625. Solids are analyzed for acid and/or base/neutral extractable organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8270C.

### GC/MS Nontarget Compound Analysis:

Analysis for nontarget compounds is conducted, upon request, in conjunction with GC/MS analyses by EPA Methods 624, 625, 8260B and 8270C. Nontarget compound analysis is conducted using a forward library search of the EPA/NIH/NBS mass spectral library of compounds at the greatest apparent concentration (10% or greater of the nearest internal standard) in each organic fraction (15 for volatile, 15 for base/ neutrals and 10 for acid extractables).

### Organochlorine Pesticides and PCBs:

Unless otherwise specified, water samples are analyzed for organochlorine pesticides and PCBs by dual column gas chromatography with electron capture detectors as specified in EPA Method 608. Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8081A for organochlorine pesticides and Method 8082 for PCBs.

### Total Petroleum Hydrocarbons:

Water samples are analyzed for petroleum hydrocarbons by I.R. using EPA Method 418.1. Solid samples are prepared for analysis by soxhlet extraction consistent with the March 1990 N.J. DEP "Remedial Investigation Guide" Appendix A, page 52, and analyzed by U.S. EPA Method 418.1

**Metals Analysis:**

Metals analyses are performed by any of four techniques specified by a Method Code provided on each data report page, as follows:

P - Inductively Coupled Plasma-Atomic Emission Spectroscopy (ICP)

A - Flame Atomic Absorption

F - Furnace Atomic Absorption

CV - Manual Cold Vapor (Mercury)

Water samples are digested and analyzed using EPA methods provided in "Methods for Chemical Analysis of Water and Wastewater" (EPA 600/4-79-020). Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition); samples are digested according to Method 3050B "Acid Digestion of Soil, Sediments and Sludges."

Specific method references for ICP analyses are water Method 200.7 and solid Method 6010B. Mercury analyses are conducted by the manual cold vapor technique specified by water Method 245.1 and solid Method 7471A. Other specific Atomic Absorption method references are as follows:

<u>Element</u>	Water Test Method		Solid Test Method	
	<u>Flame</u>	<u>Furnace</u>	<u>Flame</u>	<u>Furnace</u>
Aluminum	202.1	202.2	7020	--
Antimony	204.1	204.2	7040	7041
Arsenic	--	206.2	--	7060
Barium	208.1	--	7080	--
Beryllium	210.1	210.2	7090	7091
Cadmium	213.1	213.2	7130	7131
Calcium	215.1	--	7140	--
Chromium, Total	218.1	218.2	7190	7191
Chromium, (+6)	218.4	218.5	7197	7195
Cobalt	219.1	219.2	7200	7201
Copper	220.1	220.2	7210	--
Iron	236.1	236.2	7380	--
Lead	239.1	239.2	7420	7421
Magnesium	242.1	--	7450	--
Manganese	243.1	243.2	7460	--
Nickel	249.1	249.2	7520	--
Potassium	258.1	--	7610	--
Selenium	--	270.2	--	7740
Silver	272.1	272.2	7760	--
Sodium	273.1	--	7770	--
Tin	283.1	283.2	7870	--
Thallium	279.1	279.2	7840	7841
Vanadium	286.1	286.2	7910	7911
Zinc	289.1	289.2	7950	--

Cyanide:

Water samples are analyzed for cyanide using EPA Method 335.3. Cyanide is determined in solid samples as specified in the EPA Contract Laboratory Program IFB dated July 1988, revised February 1989.

Phenols:

Water samples are analyzed for total phenols using EPA Method 420.2. Total phenols are determined in solid samples by preparing the sample as outlined in the EPA Contract Laboratory Program IFB for cyanide, followed by a phenols determination using EPA Method 420.1.

Cleanup of Semivolatile Extracts:

Upon request Method 3611B Alumina Column Cleanup and/or Method 3650B Acid-Base Partition Cleanup are performed to improve detection limits by the removal of saturated hydrocarbon interferences.

Hazardous Waste Characteristics:

Samples for hazardous waste characteristics are analyzed as specified in the U.S. EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition). Specific method references are as follows:

Ignitability - Method 1020A

Corrosivity - Water pH Method 9040B  
Soil pH Method 9045C

Reactivity - Chapter 7, Section 7.3.3 and 7.3.4 respectively for hydrogen cyanide and hydrogen sulfide release

Toxicity - TCLP Method 1311

Miscellaneous Parameters:

Additional analyses performed on both aqueous and solid samples are in accordance with methods published in the following references:

- Test Methods for Evaluating Solid Wastes, SW-846 3rd Edition, November 1986.
- Standard Methods for the Examination of Water and Wastewater, 17th Edition.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1979.

## DATA REPORTING QUALIFIERS

ND - The compound was not detected at the indicated concentration.

J - Mass spectral data indicates the presence of a compound that meets the identification criteria. The result is less than the specified detection limit but greater than zero. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

\* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

NON-CONFORMANCE SUMMARY

STL Edison Job Number: I524

Volatile Organics Analysis:

All data conforms with method requirements /; or  
Analysis was not requested \_\_\_\_; or  
Non-conformance for the specific samples listed is as follows:

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See continuation page if checked ( )

Base/Neutral and/or Acid Extractable Organics:

All data conforms with method requirements /; or  
Analysis was not requested \_\_\_\_; or  
Non-conformance for the specific samples listed is as follows:

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See continuation page if checked ( )

PCBs and/or Organochlorine Pesticides:

All data conforms with method requirements \_\_\_\_; or  
Analysis was not requested /; or  
Non-conformance for the specific samples listed is as follows:

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See continuation page if checked ( )

Non-conformance Summary, Page 2 of 2  
STL Edison Job Number: TS24

Metals Analysis:

All data conforms with method requirements \_\_\_\_\_; or  
Analysis was not requested \_\_\_\_\_; or  
Non-conformance for the specific samples listed is as follows:

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See continuation page if checked ( )

Total Petroleum Hydrocarbons:

All data conforms with method requirements \_\_\_\_\_; or  
Analysis was not requested \_\_\_\_\_; or  
Non-conformance for the specific samples listed is as follows:

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See continuation page if checked ( )

General Chemistry/Disposal Parameters:

All data conforms with method requirements \_\_\_\_\_; or  
Analysis was not requested \_\_\_\_\_; or  
Non-conformance for the specific samples listed is as follows:

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See continuation page if checked ( )

Signature of  
Laboratory Manager:

Candice Lut Date: 3-23-01

Client ID: Trip\_Blank  
Site: L.E. Carpenter

Lab Sample No: 260045  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Extracted: 03/03/01  
Date Analyzed: 03/12/01  
GC Column: DB-5  
Instrument ID: BNAMS8.i  
Lab File ID: aa3847.d

Matrix: WATER  
Level: LOW  
Sample Volume: 1000 ml  
Extract Final Volume: 2.0 ml  
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS  
METHOD 625

Parameter

Analytical Result  
Units: ug/l

Method Detection  
Limit  
Units: ug/l

bis(2-Ethylhexyl)phthalate                    0.6B                    0.4

Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3847.d  
Report Date: 13-Mar-2001 09:12

STL Edison

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3847.d  
Lab Smp Id: 260045 Client Smp ID: Trip\_Bank  
Inj Date : 12-MAR-2001 22:13  
Operator : BNAMS 1 Inst ID: BNAMS8.i  
Smp Info : 260045;1000;2;1  
Misc Info : I524;BIS2EHP;6157;143;  
Comment :  
Method : /chem/BNAMS8.i/625/03-12-01/12mar01.b/bna625b.m  
Meth Date : 13-Mar-2001 08:17 zhang Quant Type: ISTD  
Cal Date : 12-MAR-2001 13:30 Cal File: aa3837.d  
Als bottle: 15  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: BIS2EHPb.sub  
Target Version: 3.50  
Processing Host: hpdl

Concentration Formula: Amt \* DF \* 1000\*Vt/Vo \* CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	2.00000	Volume of final extract (mL)
Vo	1000.00000	Volume of sample extracted (mL)

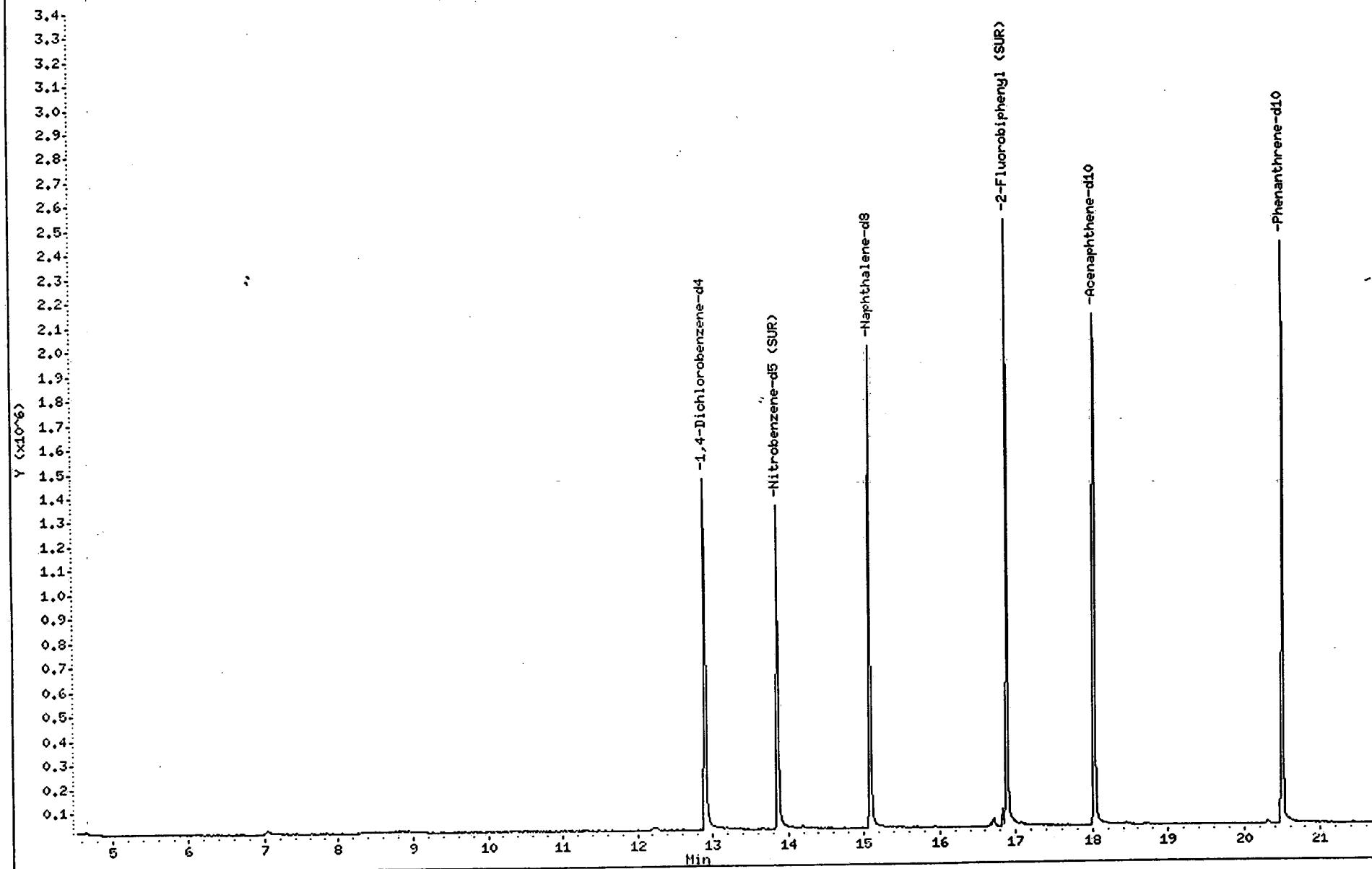
Cpnd Variable Local Compound Variable

Compounds	QUANT SIG	CONCENTRATIONS					
		MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/ml) FINAL (ug/L)
* 79 1,4-Dichlorobenzene-d4	152	12.895	12.893	(1.000)	353925	40.0000	
\$ 76 Nitrobenzene-d5 (SUR)	82	13.868	13.855	(0.919)	589393	41.8488	84
* 80 Naphthalene-d8	136	15.086	15.083	(1.000)	1298669	40.0000	
\$ 77 2-Fluorobiphenyl (SUR)	172	16.887	16.885	(0.937)	1026123	39.5247	79
* 82 Acenaphthene-d10	164	18.023	18.021	(1.000)	786792	40.0000	
* 83 Phenanthrene-d10	188	20.500	20.498	(1.000)	1584233	40.0000	
\$ 78 Terphenyl-d14 (SUR)	244	23.131	23.118	(0.928)	1752405	48.8838	98
63 bis(2-Ethylhexyl)phthalate	149	24.860	24.858	(0.998)	11198	0.29823	0.60
* 81 Chrysene-d12	240	24.922	24.919	(1.000)	1721724	40.0000	
* 84 Perylene-d12	264	28.412	28.410	(1.000)	1582864	40.0000	

Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3847.d  
Date : 12-MAR-2001 22:13  
Client ID: Trip\_Blank  
Sample Info: 260045;1000;2;1  
Purge Volume: 1000.0  
Column phaset: DB-5

Instrument: BNAMS8.i  
Operator: BNAMS 1  
Column diameter: 0.53

/chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3847.d (Part 1 of 2)

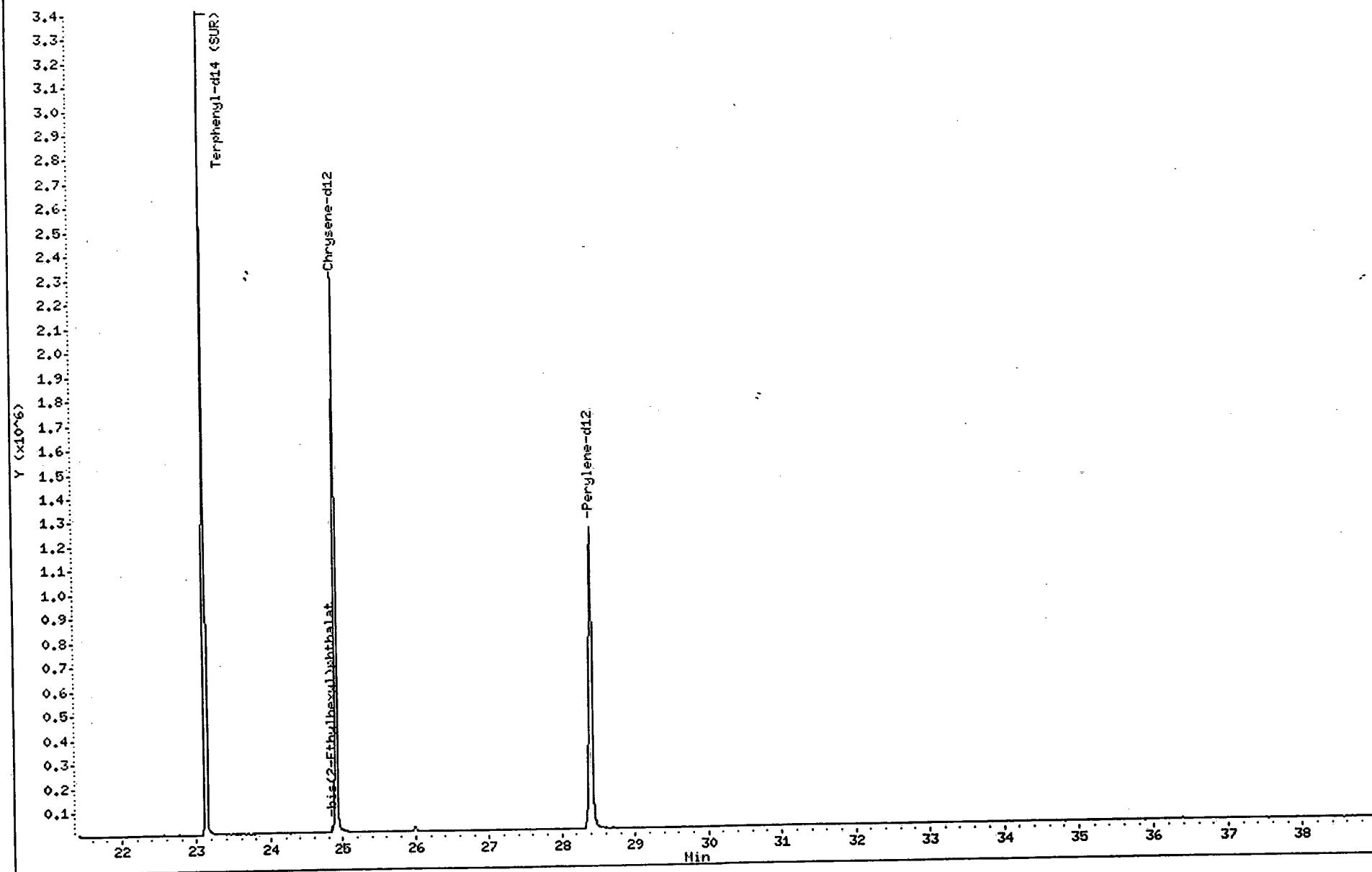


Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3847.d  
Date : 12-MAR-2001 22:13  
Client ID: Trip\_Bank  
Sample Info: 260045;1000;2;1  
Purge Volume: 1000.0  
Column phase: DB-5

Instrument: BNAMS8.i  
Operator: BNAMS 1  
Column diameter: 0.53

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/chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3847.d (Part 2 of 2)



Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3847.d

Date : 12-MAR-2001 22:13

Client ID: Trip\_Blank

Instrument: BNAMS8.i

Sample Info: 260045;1000;2;1

Purge Volume: 1000.0

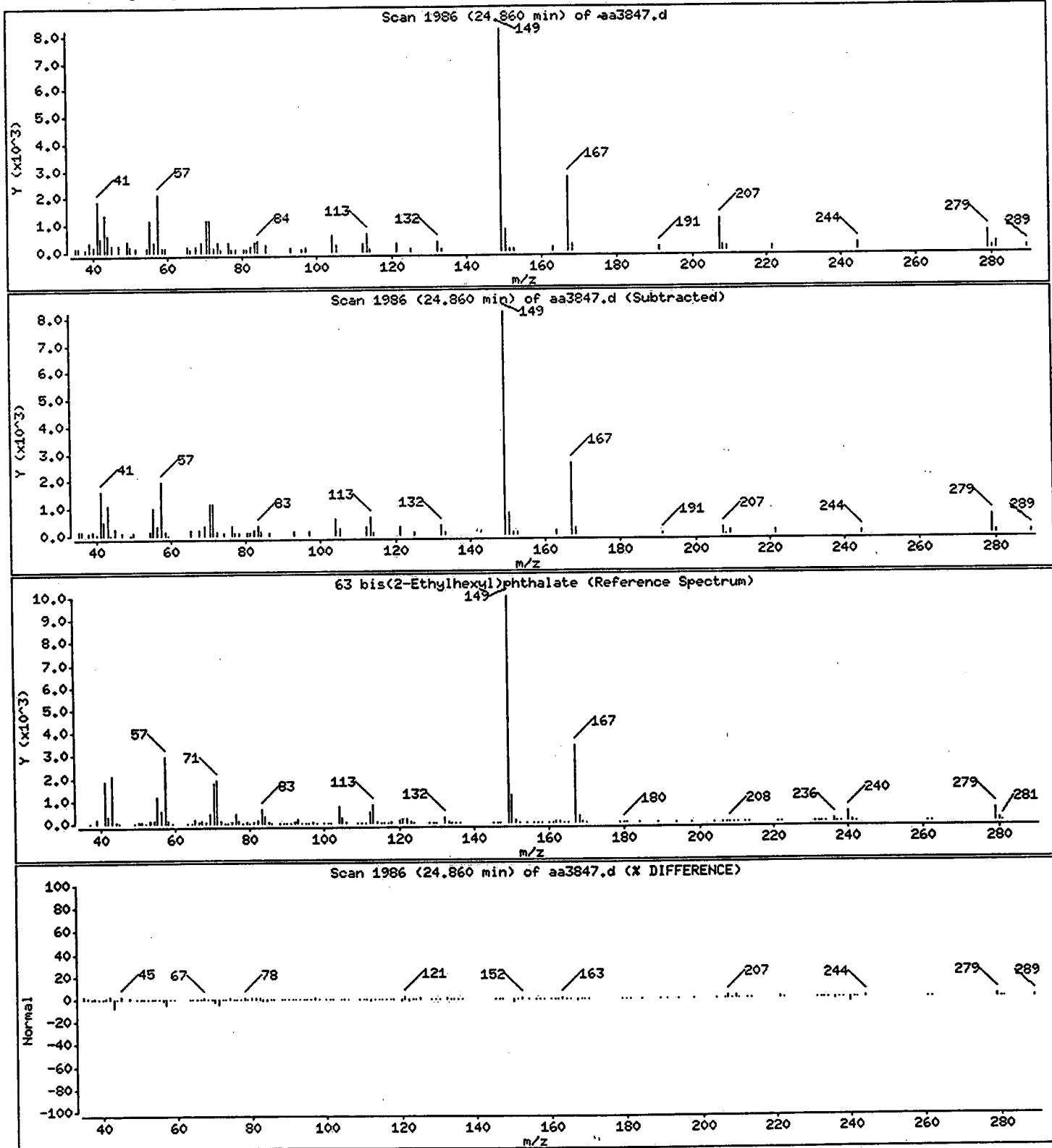
Operator: BNAMS 1

Column phase: DB-5

Column diameter: 0.53

63 bis(2-Ethylhexyl)phthalate

Concentration: 0.60 ug/L



Client ID: MW11D  
Site: L.E. Carpenter

Lab Sample No: 260048  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Extracted: 03/03/01  
Date Analyzed: 03/12/01  
GC Column: DB-5  
Instrument ID: BNAMS8.i  
Lab File ID: aa3848.d

Matrix: WATER  
Level: LOW  
Sample Volume: 980 ml  
Extract Final Volume: 2.0 ml  
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS  
METHOD 625

<u>Parameter</u>	<u>Analytical Result</u>	<u>Method Detection Limit</u>
	<u>Units:</u> ug/l	<u>Units:</u> ug/l
bis(2-Ethylhexyl)phthalate	0.8B	0.4

Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3848.d  
Report Date: 13-Mar-2001 09:12

STL Edison

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3848.d  
Lab Smp Id: 260048 Client Smp ID: MW11D

Inj Date : 12-MAR-2001 23:05

Operator : BNAMS 1

Smp Info : 260048;980;2;1

Misc Info : I524;BIS2EHP;6157;143;

Comment :

Method : /chem/BNAMS8.i/625/03-12-01/12mar01.b/bna625b.m

Meth Date : 13-Mar-2001 08:17 zhang Quant Type: ISTD

Cal Date : 12-MAR-2001 13:30 Cal File: aa3837.d

Als bottle: 16

Dil Factor: 1.00000

Integrator: HP RTE

Target Version: 3.50

Processing Host: hpdl

Compound Sublist: BIS2EHPb.sub

2 3

Concentration Formula: Amt \* DF \* 1000\*Vt/Vo \* CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	2.00000	Volume of final extract (mL)
Vo	980.00000	Volume of sample extracted (mL)

Cpnd Variable

Local Compound Variable

Compounds	QUANT SIG	CONCENTRATIONS						
		MASS	RT	EXP RT	REL RT	RESPONSE	(ug/ml)	( ug/L)
* 79 1,4-Dichlorobenzene-d4	152	12.900	12.893	(1.000)	336763	40.0000		
\$ 76 Nitrobenzene-d5 (SUR)	82	13.862	13.855	(0.919)	494120	36.3638	74	
* 80 Naphthalene-d8	136	15.090	15.083	(1.000)	1252965	40.0000		
\$ 77 2-Fluorobiphenyl (SUR)	172	16.892	16.885	(0.937)	894681	35.9019	73	
* 82 Acenaphthene-d10	164	18.028	18.021	(1.000)	755231	40.0000		
* 83 Phenanthrene-d10	188	20.505	20.498	(1.000)	1481606	40.0000		
\$ 78 Terphenyl-d14 (SUR)	244	23.135	23.118	(0.929)	1553864	44.0791	90	
63 bis(2-Ethylhexyl)phthalate	149	24.855	24.858	(0.998)	15000	0.40624	0.83	
* 81 Chrysene-d12	240	24.916	24.919	(1.000)	1693069	40.0000		
* 84 Perylene-d12	264	28.417	28.410	(1.000)	1538258	40.0000		

Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3848.d

Date : 12-MAR-2001 23:05

Client ID: MW11D

Sample Info: 260048;980;2;1

Purge Volume: 980.0

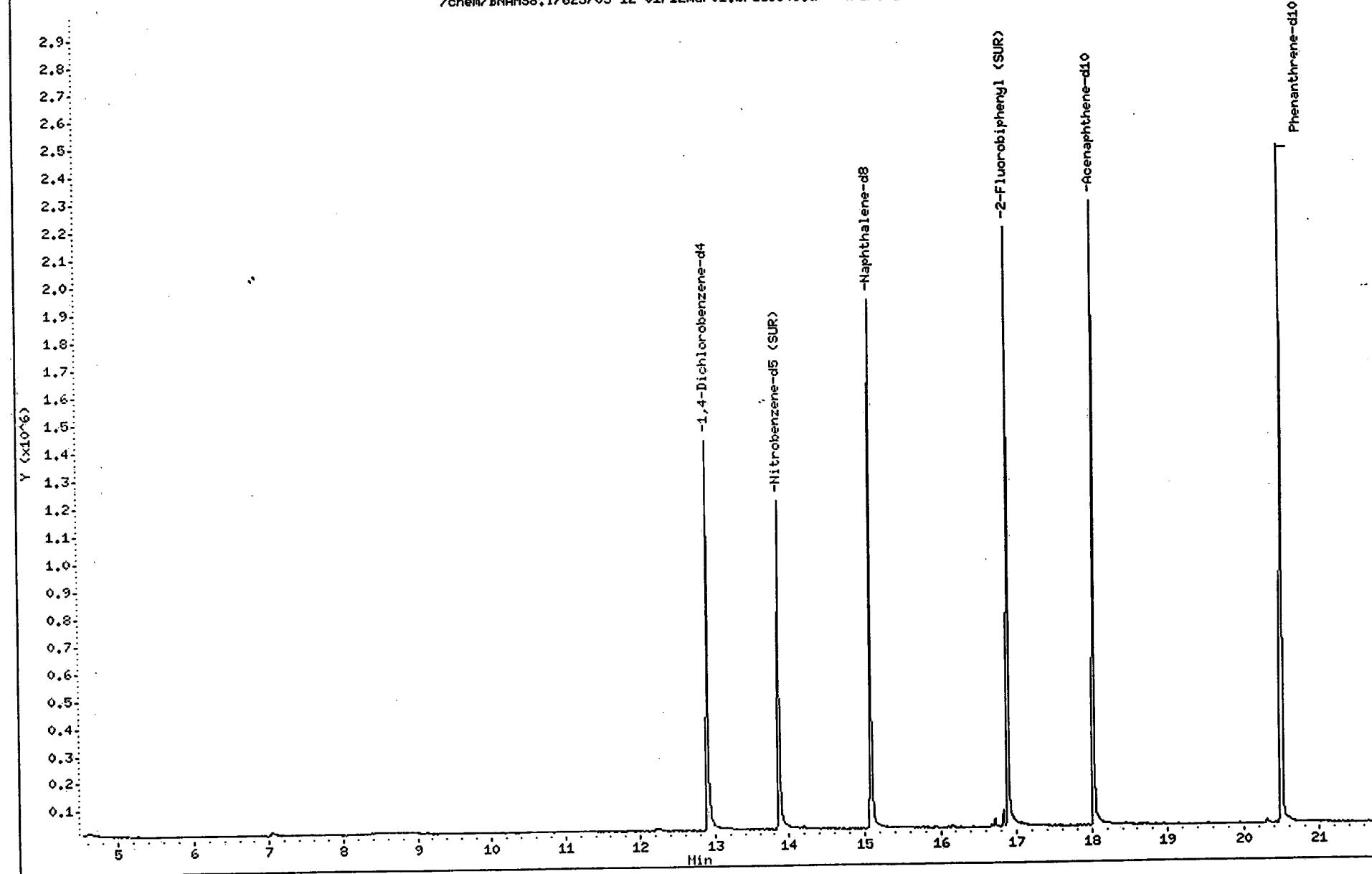
Column phase: DB-5

Instrument: BNAMS8.i

Operator: BNAMS 1

Column diameter: 0.53

/chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3848.d (Part 1 of 2)



Data File: /chem/BNAHSS.1/625/03-12-01/12mar01.b/aa3848.d

Date : 12-MAR-2001 23:05

Client ID: MW11D

Sample Info: 260048;980;2;1

Purge Volume: 980.0

Column phase: DB-5

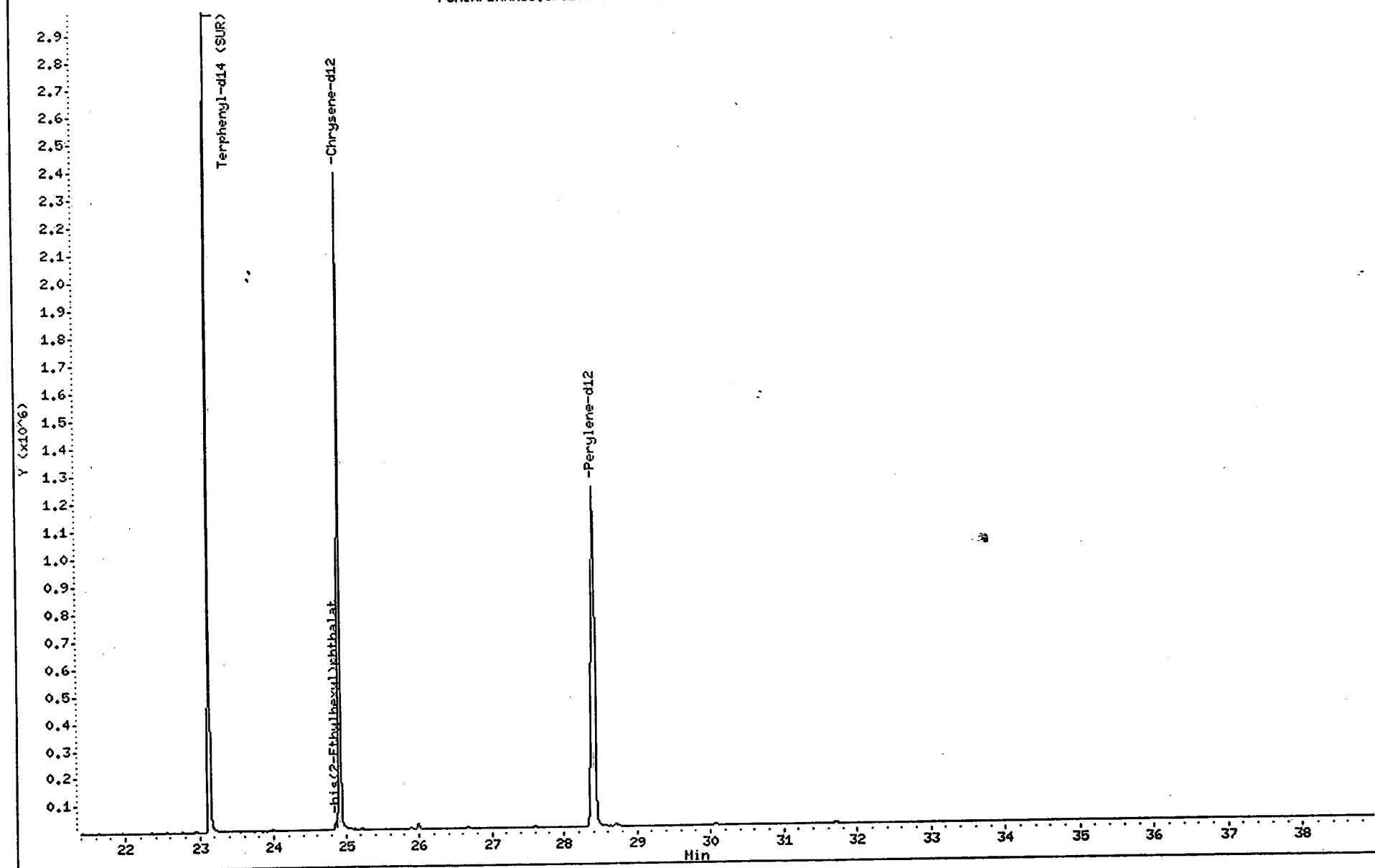
Instrument: BNAHSS.i

Operator: BNAHSS.1

Column diameter: 0.53

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/chem/BNAHSS.1/625/03-12-01/12mar01.b/aa3848.d (Part 2 of 2)



Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3848.d

Date : 12-MAR-2001 23:05

Client ID: MW11D

Instrument: BNAMS8.i

Sample Info: 260048;980;2;1

Burge Volume: 980.0

Operator: BNAMS 1

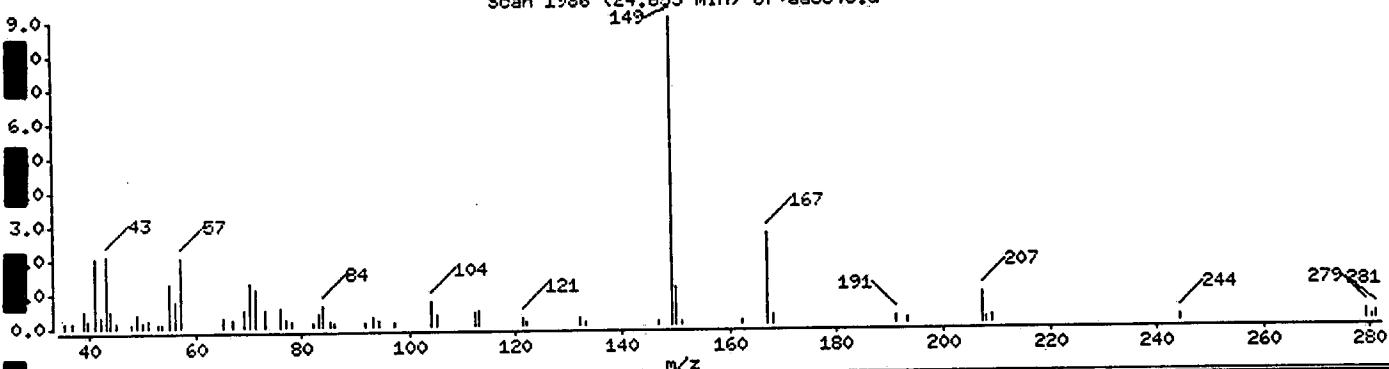
Column phase: DB-5

Column diameter: 0.53

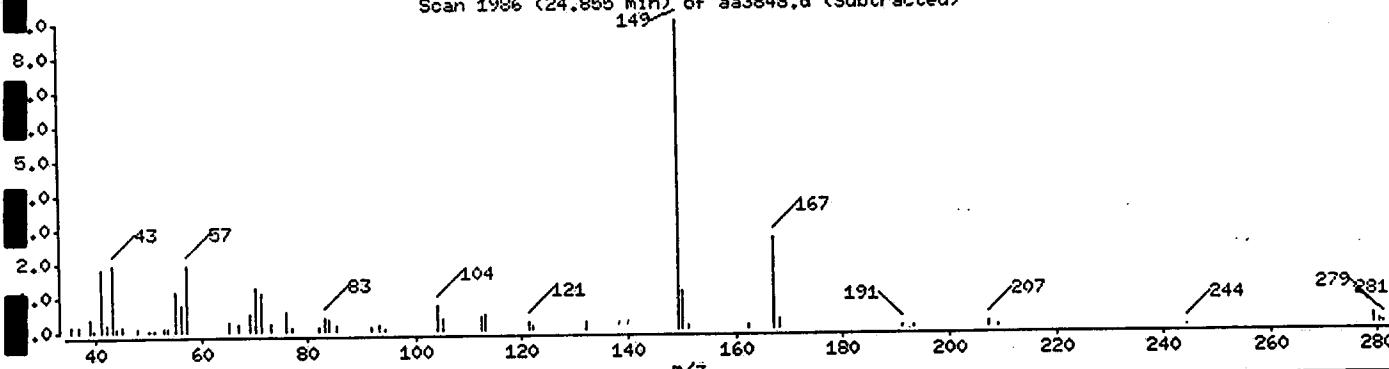
bis(2-Ethylhexyl)phthalate

Concentration: 0.83 ug/L

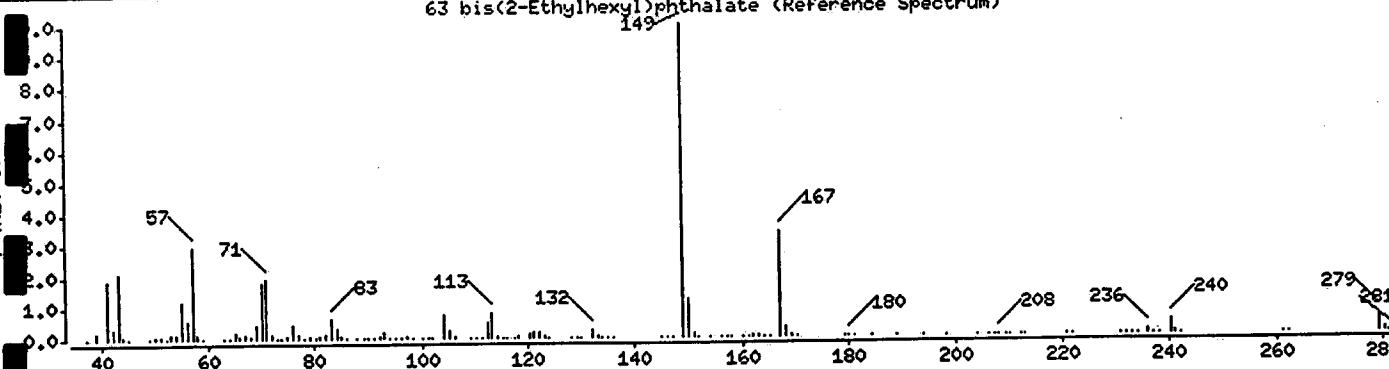
Scan 1986 (24.855 min) of aa3848.d



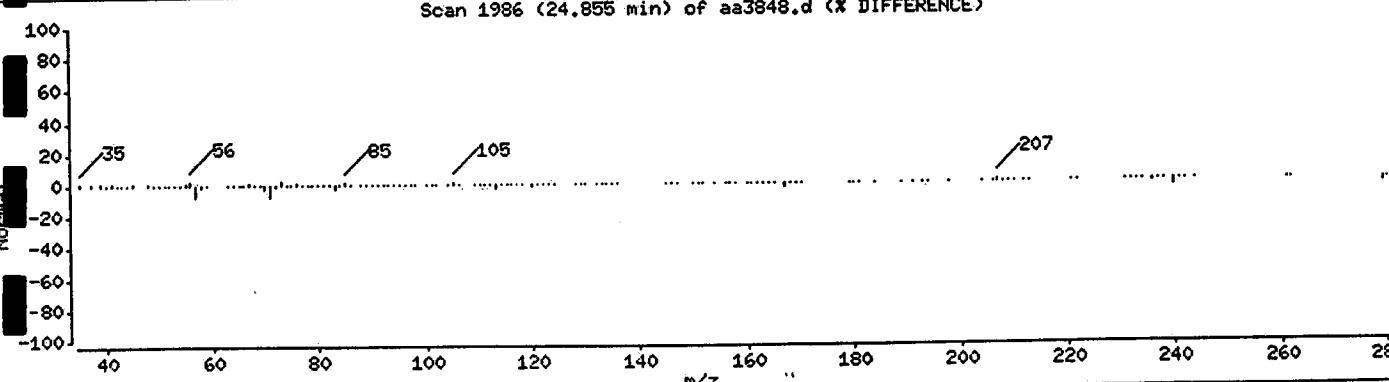
Scan 1986 (24.855 min) of aa3848.d (Subtracted)



63 bis(2-Ethylhexyl)phthalate (Reference Spectrum)



Scan 1986 (24.855 min) of aa3848.d (% DIFFERENCE)



Client ID: MW14S  
Site: L.E. Carpenter

Lab Sample No: 260050  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Extracted: 03/03/01  
Date Analyzed: 03/12/01  
GC Column: DB-5  
Instrument ID: BNAMS8.i  
Lab File ID: aa3849.d

Matrix: WATER  
Level: LOW  
Sample Volume: 980 ml  
Extract Final Volume: 2.0 ml  
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS  
METHOD 625

<u>Parameter</u>	<u>Analytical Result</u>	<u>Method Detection Limit</u>
	<u>Units:</u> ug/l	<u>Units:</u> ug/l
bis(2-Ethylhexyl)phthalate	2.4B	0.4

Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3849.d  
Report Date: 13-Mar-2001 09:12

STL Edison

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3849.d  
Lab Smp Id: 260050 Client Smp ID: MW14S  
Inj Date : 12-MAR-2001 23:57  
Operator : BNAMS 1 Inst ID: BNAMS8.i  
Smp Info : 260050;980;2;1  
Misc Info : I524;BIS2EHP;6157;143;  
Comment :  
Method : /chem/BNAMS8.i/625/03-12-01/12mar01.b/bna625b.m  
Meth Date : 13-Mar-2001 08:17 zhang Quant Type: ISTD  
Cal Date : 12-MAR-2001 13:30 Cal File: aa3837.d  
Als bottle: 17  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: BIS2EHPb.sub  
Target Version: 3.50  
Processing Host: hpdl  
*7 JM*

Concentration Formula: Amt \* DF \* 1000\*Vt/Vo \* CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	2.00000	Volume of final extract (mL)
Vo	980.00000	Volume of sample extracted (mL)

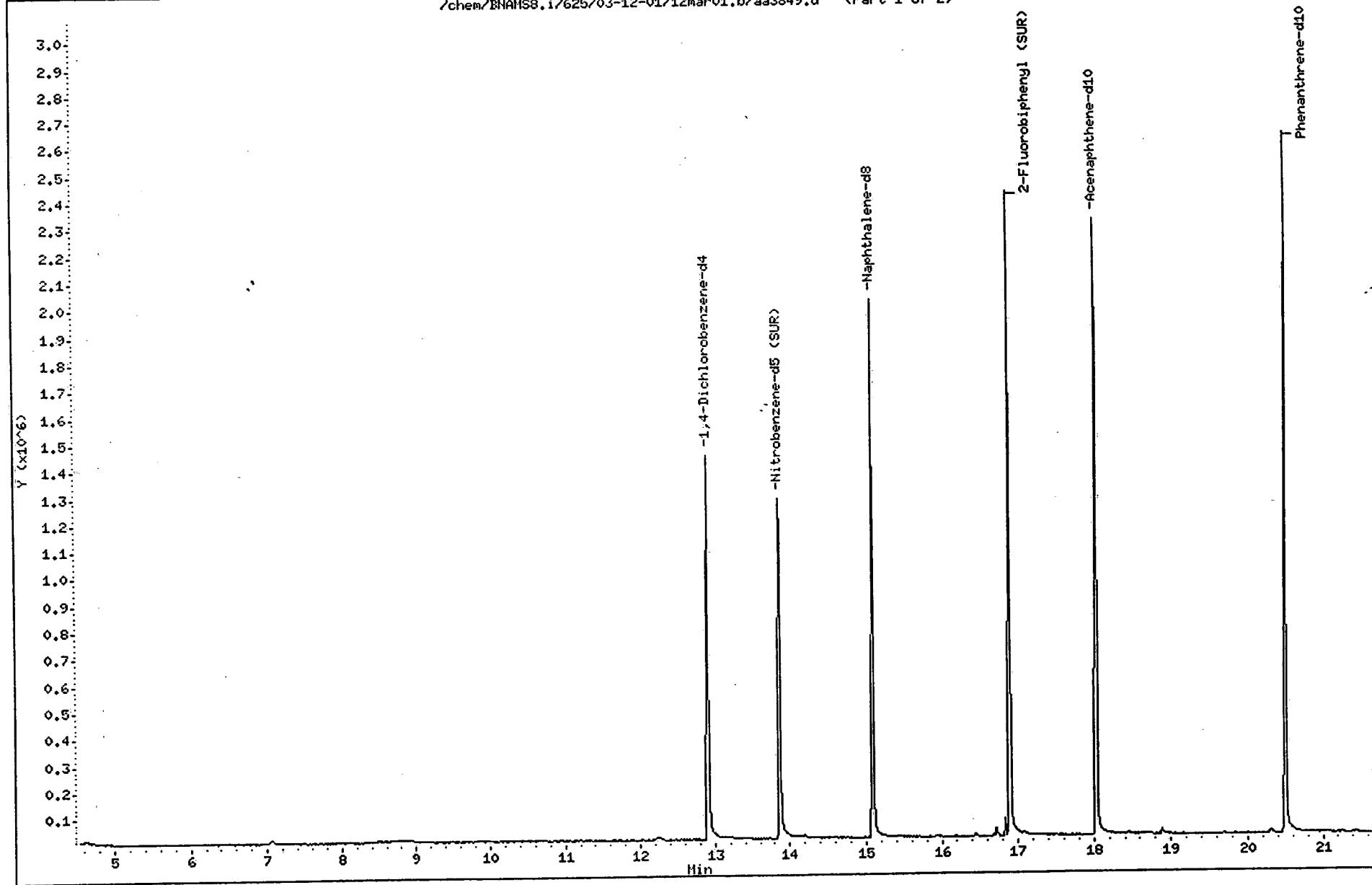
Cpnd Variable Local Compound Variable

Compounds	QUANT SIG	CONCENTRATIONS						
		MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/ml)	FINAL ( ug/L)
*	152	12.903	12.893 (1.000)		354673	40.0000		
\$	76	Nitrobenzene-d5 (SUR)	82	13.866	13.855 (0.919)	598354	41.9428	86
*	80	Naphthalene-d8	136	15.094	15.083 (1.000)	1315457	40.0000	
\$	77	2-Fluorobiphenyl (SUR)	172	16.895	16.885 (0.937)	1006444	37.0162	76
*	82	Acenaphthene-d10	164	18.031	18.021 (1.000)	823999	40.0000	
*	83	Phenanthrene-d10	188	20.508	20.498 (1.000)	1629594	40.0000	
\$	78	Terphenyl-d14 (SUR)	244	23.139	23.118 (0.929)	1702757	44.4087	91
	63	bis(2-Ethylhexyl)phthalate	149	24.858	24.858 (0.998)	47151	1.17404	2.4
*	81	Chrysene-d12	240	24.920	24.919 (1.000)	1841531	40.0000	
*	84	Perylene-d12	264	28.430	28.410 (1.000)	1716164	40.0000	

Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3849.d  
Date : 12-MAR-2001 23:57  
Client ID: MW14S  
Sample Info: 260050;980;2;1  
Purge Volume: 980.0  
Column phase: DB-5

Instrument: BNAMS8.i  
Operator: BNAMS 1  
Column diameter: 0.53

/chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3849.d (Part 1 of 2)

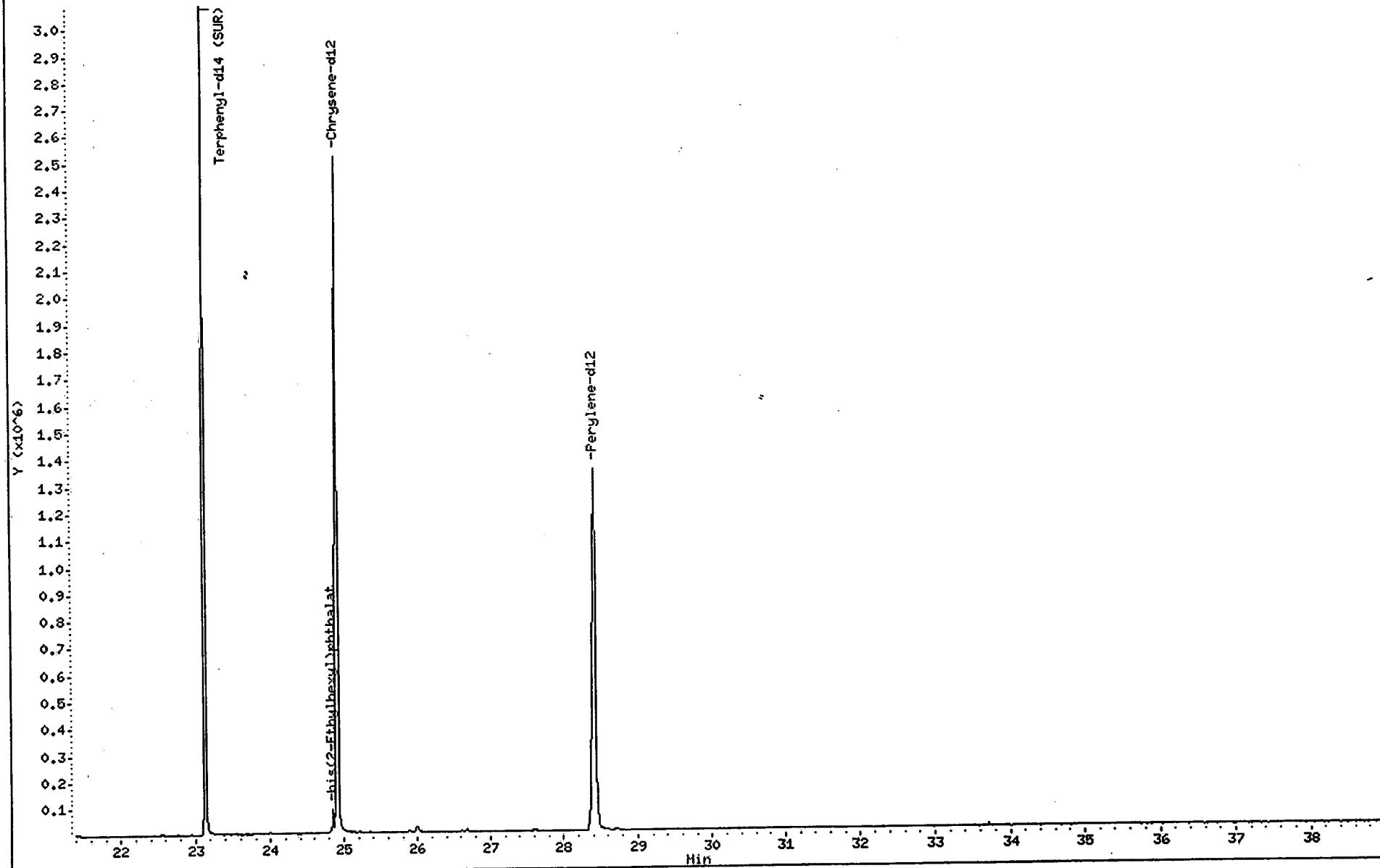


Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3849.d  
Date : 12-MAR-2001 23:57  
Client ID: MW14S  
Sample Info: 260050;980;2;1  
Purge Volume: 980.0  
Column phase: DB-5

Instrument: BNAMS8.i  
Operator: BNAMS 1  
Column diameter: 0.53

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/chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3849.d (Part 2 of 2)



Data File: /chem/BNAMSS.i/625/03-12-01/12mar01.b/aa3849.d

Date : 12-MAR-2001 23:57

Client ID: MW14S

Instrument: BNAMSS.i

Sample Info: 260050;980;2;1

Purge Volume: 980.0

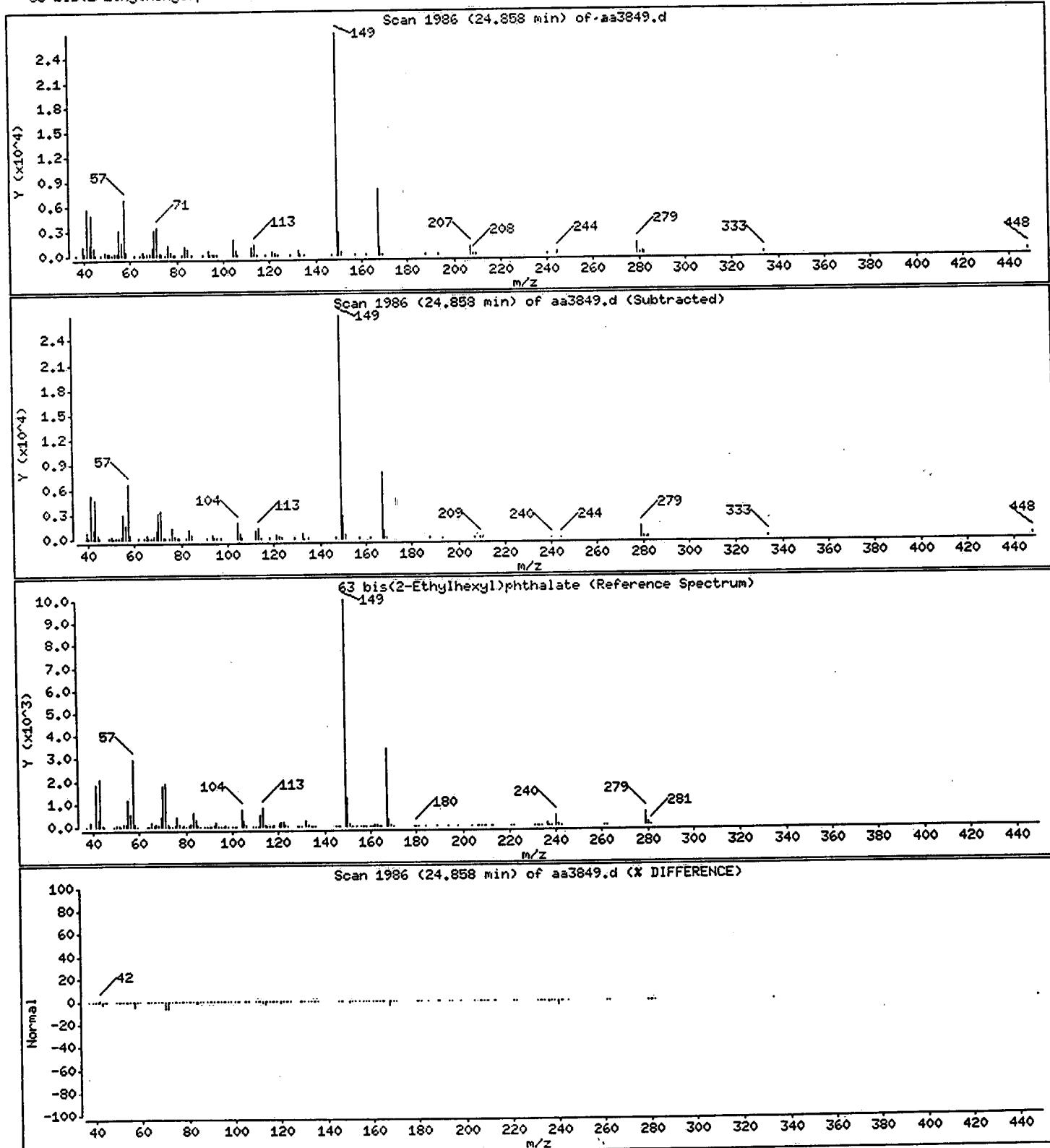
Operator: BNAMS 1

Column phase: DB-5

Column diameter: 0.53

63 bis(2-Ethylhexyl)phthalate

Concentration: 2.4 ug/L



Client ID: MW25  
Site: L.E. Carpenter

Lab Sample No: 260052  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Extracted: 03/03/01  
Date Analyzed: 03/13/01  
GC Column: DB-5  
Instrument ID: BNAMS8.i  
Lab File ID: aa3850.d

Matrix: WATER  
Level: LOW  
Sample Volume: 970 ml  
Extract Final Volume: 2.0 ml  
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS  
METHOD 625

<u>Parameter</u>	<u>Analytical Result</u>	<u>Method Detection Limit</u>
	<u>Units: ug/l</u>	<u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	1.9B	0.5

Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3850.d  
Report Date: 13-Mar-2001 09:12

STL Edison

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3850.d  
Lab Smp Id: 260052 Client Smp ID: MW25  
Inj Date : 13-MAR-2001 00:48  
Operator : BNAMS 1 Inst ID: BNAMS8.i  
Smp Info : 260052;970;2;1  
Misc Info : I524;BIS2EHP;6157;143;  
Comment :  
Method : /chem/BNAMS8.i/625/03-12-01/12mar01.b/bna625b.m  
Meth Date : 13-Mar-2001 08:17 zhang Quant Type: ISTD  
Cal Date : 12-MAR-2001 13:30 Cal File: aa3837.d  
Als bottle: 18  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: BIS2EHPb.sub  
Target Version: 3.50  
Processing Host: hpdl 17 5

Concentration Formula: Amt \* DF \* 1000\*Vt/Vo \* CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	2.00000	Volume of final extract (mL)
Vo	970.00000	Volume of sample extracted (mL)

Cpnd Variable Local Compound Variable

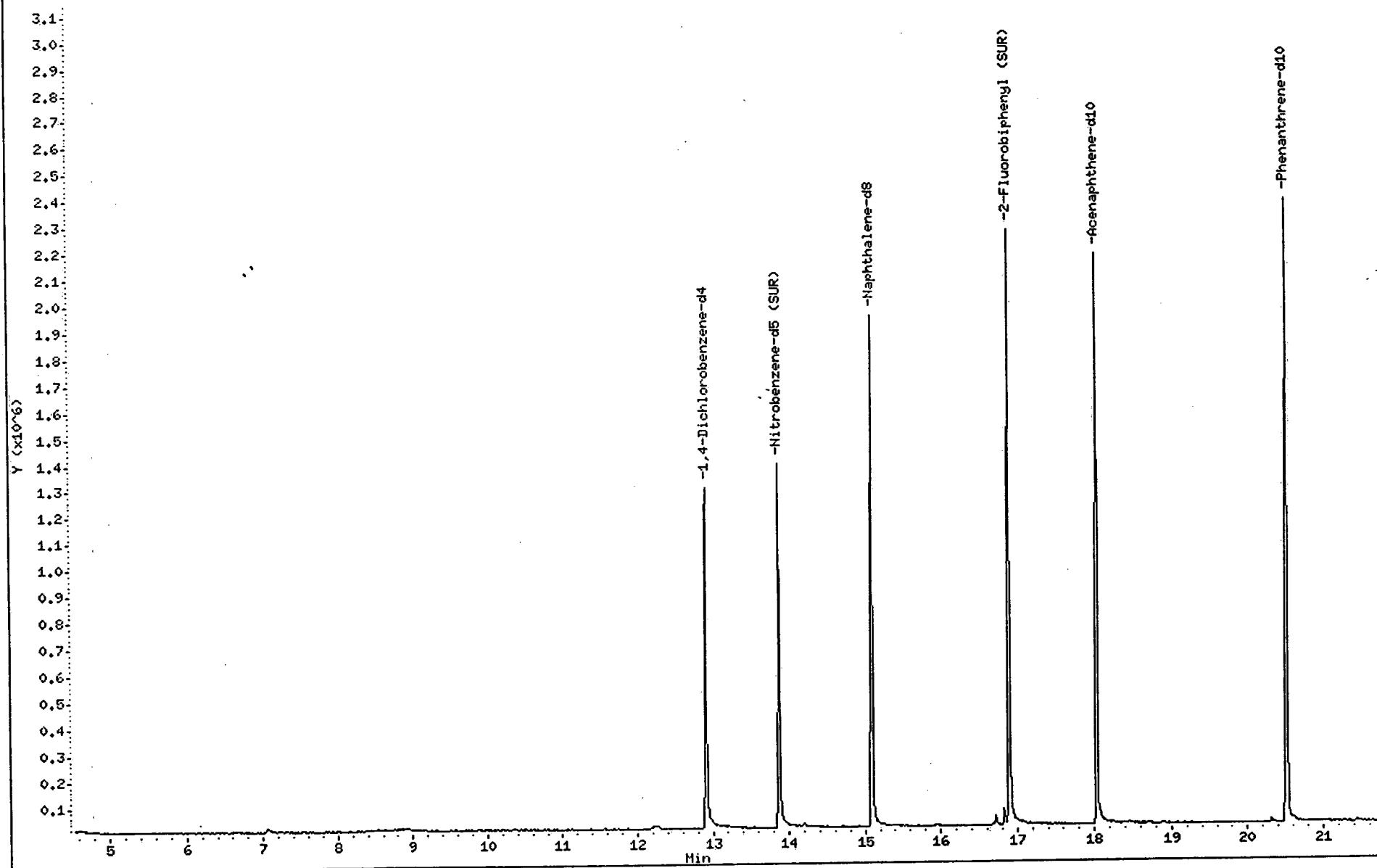
Compounds	QUANT SIG	CONCENTRATIONS					
		MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/ml) FINAL ( ug/L)
* 79 1,4-Dichlorobenzene-d4	152	12.911	12.893 (1.000)	347346	40.0000		
\$ 76 Nitrobenzene-d5 (SUR)	82	13.873	13.855 (0.919)	572278	40.6535	84	
* 80 Naphthalene-d8	136	15.091	15.083 (1.000)	1298032	40.0000		
\$ 77 2-Fluorobiphenyl (SUR)	172	16.893	16.885 (0.936)	1084352	41.1693	85	
* 82 Acenaphthene-d10	164	18.039	18.021 (1.000)	798227	40.0000		
* 83 Phenanthrene-d10	188	20.506	20.498 (1.000)	1567697	40.0000		
\$ 78 Terphenyl-d14 (SUR)	244	23.136	23.118 (0.928)	1670872	46.2445	95	
63 bis(2-Ethylhexyl)phthalate	149	24.866	24.858 (0.998)	34210	0.90395	1.9	
* 81 Chrysene-d12	240	24.927	24.919 (1.000)	1735309	40.0000		
* 84 Perylene-d12	264	28.428	28.410 (1.000)	1622542	40.0000		

Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3850.d  
Date : 13-MAR-2001 00:48  
Client ID: MW25  
Sample Info: 260052;970;2;1  
Purge Volume: 970.0  
Column phase: DB-5

Instrument: BNAMS8.i  
Operator: BNAMS 1  
Column diameter: 0.53

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/chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3850.d (Part 1 of 2)



Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3850.d

Date : 13-MAR-2001 00:48

Client ID: HW25

Sample Info: 260052;970;2;1

Purge Volume: 970.0

Column phase: DB-5

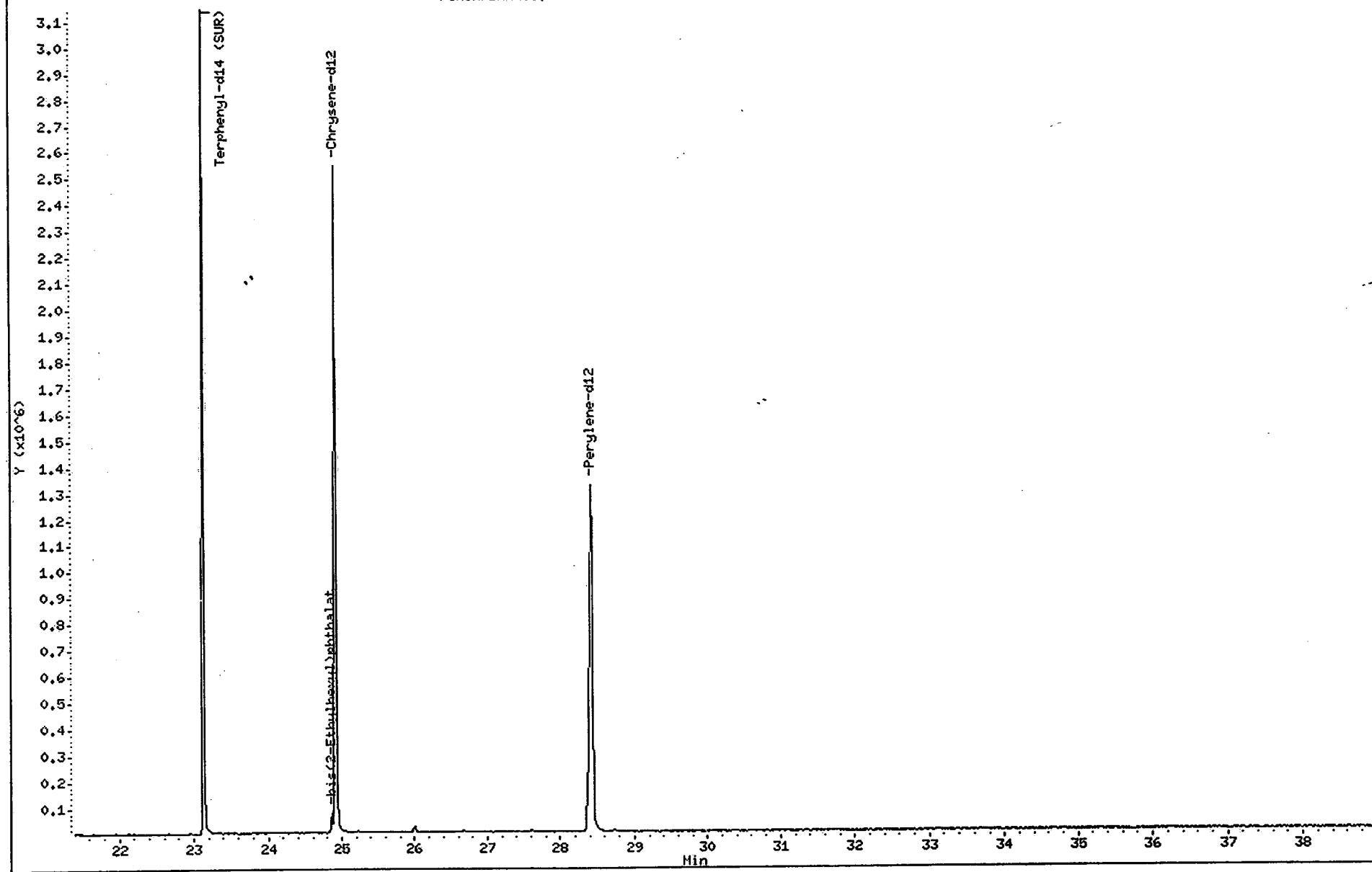
Instrument: BNAMS8.i

Operator: BNAMS 1

Column diameter: 0.53

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/chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3850.d (Part 2 of 2)



Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3850.d

Date : 13-MAR-2001 00:48

Client ID: MW25

Instrument: BNAMS8.i

Sample Info: 260052;970;2;1

Purge Volume: 970.0

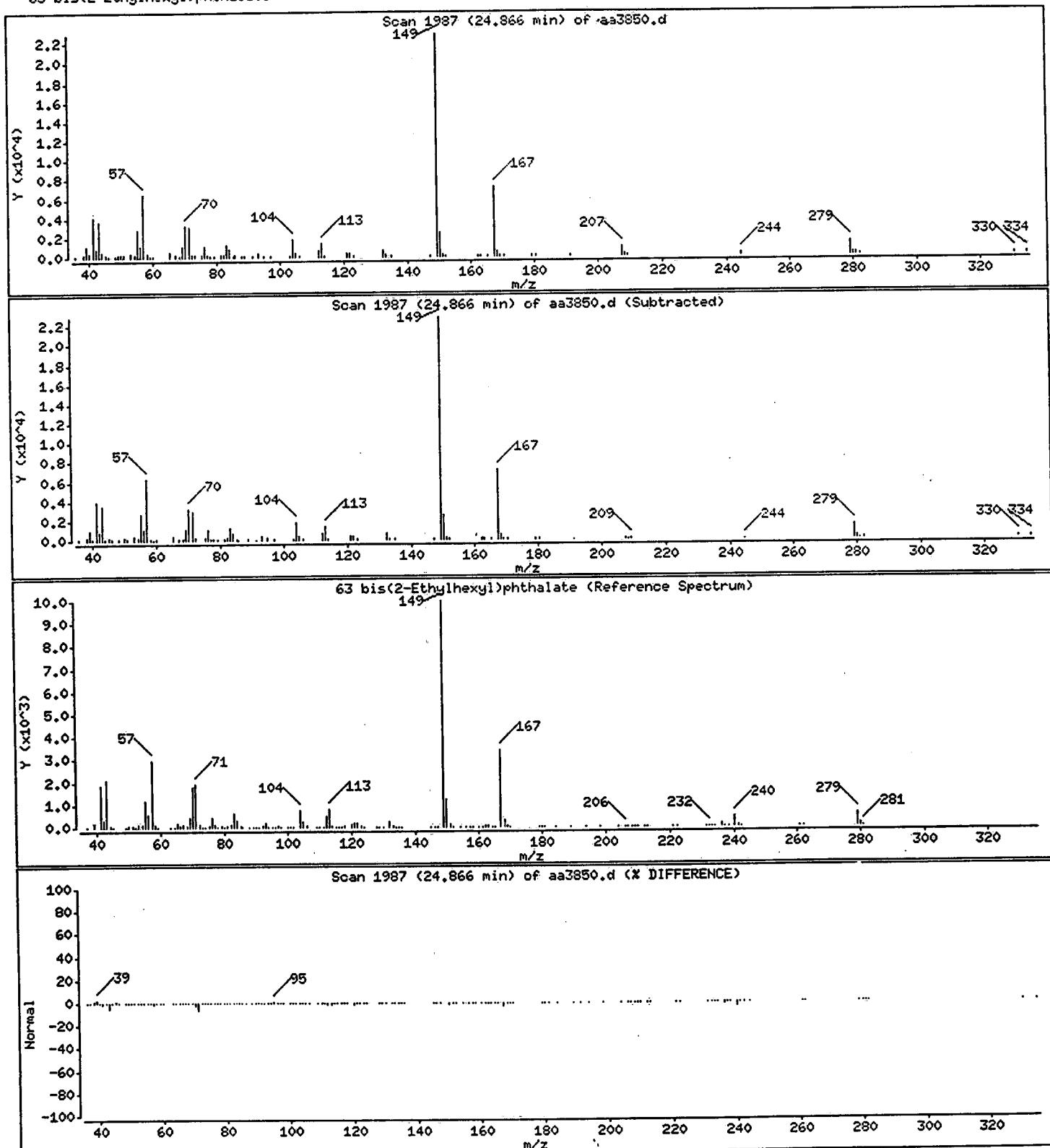
Operator: BNAMS 1

Column phase: DB-5

Column diameter: 0.53

63 bis(2-Ethylhexyl)phthalate

Concentration: 1.9 ug/L



Client ID: MW21  
Site: L.E. Carpenter

Lab Sample No: 260053  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Extracted: 03/03/01  
Date Analyzed: 03/13/01  
GC Column: DB-5  
Instrument ID: BNAMS8.i  
Lab File ID: aa3851.d

Matrix: WATER  
Level: LOW  
Sample Volume: 980 ml  
Extract Final Volume: 2.0 ml  
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS  
METHOD 625

Parameter

Analytical Result  
Units: ug/l

Method Detection  
Limit  
Units: ug/l

bis(2-Ethylhexyl)phthalate                    2.7B                    0.4

Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3851.d  
Report Date: 13-Mar-2001 09:12

STL Edison

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3851.d  
Lab Smp Id: 260053 Client Smp ID: MW21  
Inj Date : 13-MAR-2001 01:40  
Operator : BNAMS 1 Inst ID: BNAMS8.i  
Smp Info : 260053;980;2;1  
Misc Info : I524;BIS2EHP;6157;143;  
Comment :  
Method : /chem/BNAMS8.i/625/03-12-01/12mar01.b/bna625b.m  
Meth Date : 13-Mar-2001 08:17 zhang Quant Type: ISTD  
Cal Date : 12-MAR-2001 13:30 Cal File: aa3837.d  
Als bottle: 19  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: BIS2EHPb.sub  
Target Version: 3.50  
Processing Host: hpd1

Concentration Formula: Amt \* DF \* 1000\*Vt/Vo \* CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	2.00000	Volume of final extract (mL)
Vo	980.00000	Volume of sample extracted (mL)

Cpnd Variable Local Compound Variable.

Compounds	QUANT SIG	CONCENTRATIONS					
		MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/ml) FINAL ( ug/L)
* 79 1,4-Dichlorobenzene-d4	152	12.910	12.893	(1.000)		358080	40.0000
\$ 76 Nitrobenzene-d5 (SUR)	82	13.872	13.855	(0.919)		553667	38.1590
* 80 Naphthalene-d8	136	15.101	15.083	(1.000)		1337914	40.0000
\$ 77 2-Fluorobiphenyl (SUR)	172	16.902	16.885	(0.937)		1037109	38.6082
* 82 Acenaphthene-d10	164	18.038	18.021	(1.000)		814092	40.0000
* 83 Phenanthrene-d10	188	20.515	20.498	(1.000)		1610238	40.0000
\$ 78 Terphenyl-d14 (SUR)	244	23.135	23.118	(0.928)		1734469	44.5736
63 bis(2-Ethylhexyl)phthalate	149	24.865	24.858	(0.998)		54322	1.33279
* 81 Chrysene-d12	240	24.926	24.919	(1.000)		1868884	40.0000
* 84 Perylene-d12	264	28.437	28.410	(1.000)		1723198	40.0000

Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3851.d

Date : 13-MAR-2001 01:40

Client ID: MW21

Sample Info: 260053;980;2;1

Purge Volume: 980.0

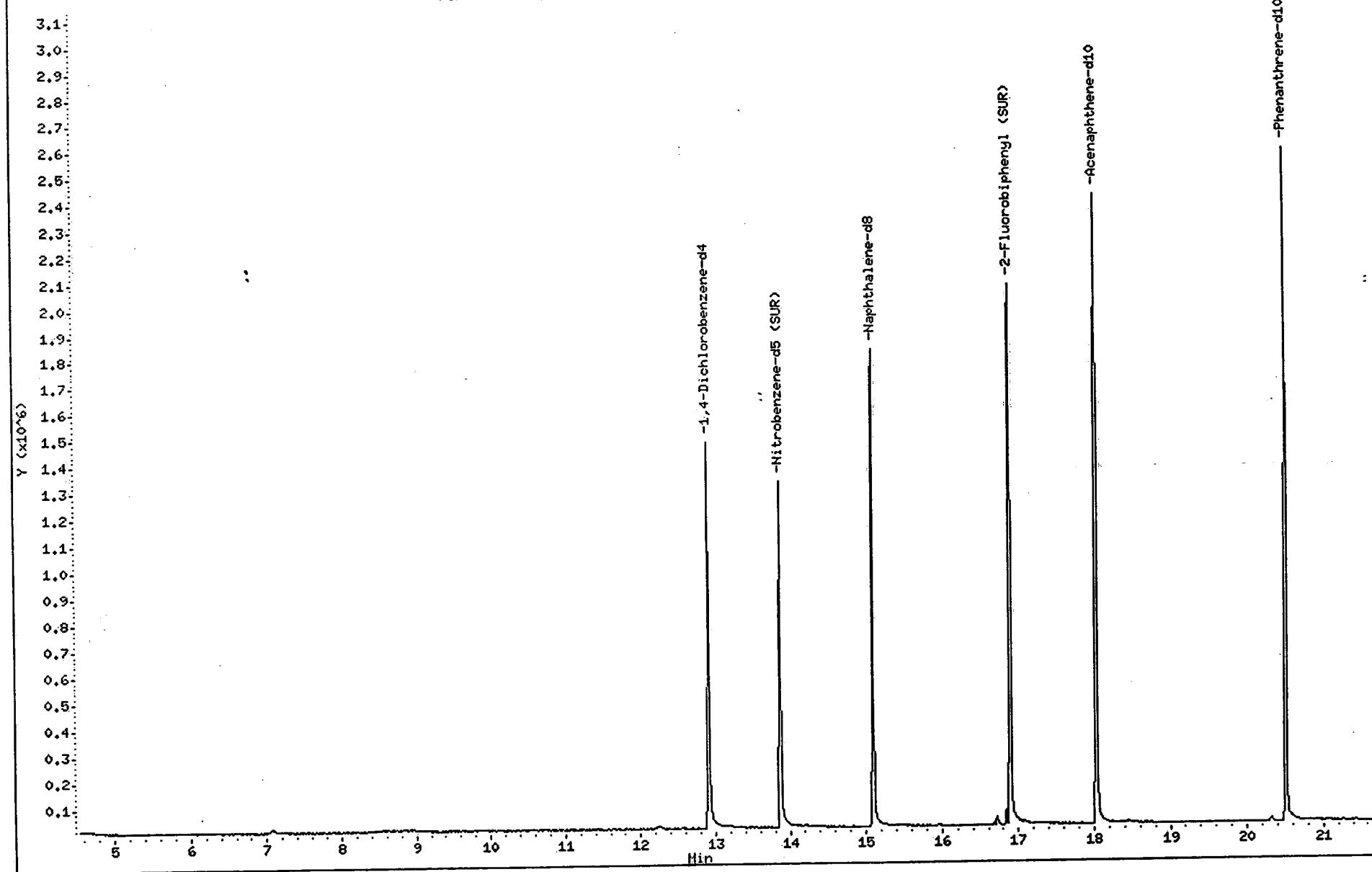
Column phase: DB-5

Instrument: BNAMS8.i

Operator: BNAMS 1

Column diameter: 0.53

/chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3851.d (Part 1 of 2)



Data File: /chem/BNAHS8.i/625/03-12-01/12mar01.b/aa3851.d

Date : 13-MAR-2001 01:40

Client ID: MW21

Sample Info: 260053;980;2;1

Purge Volume: 980.0

Column phase: DB-5

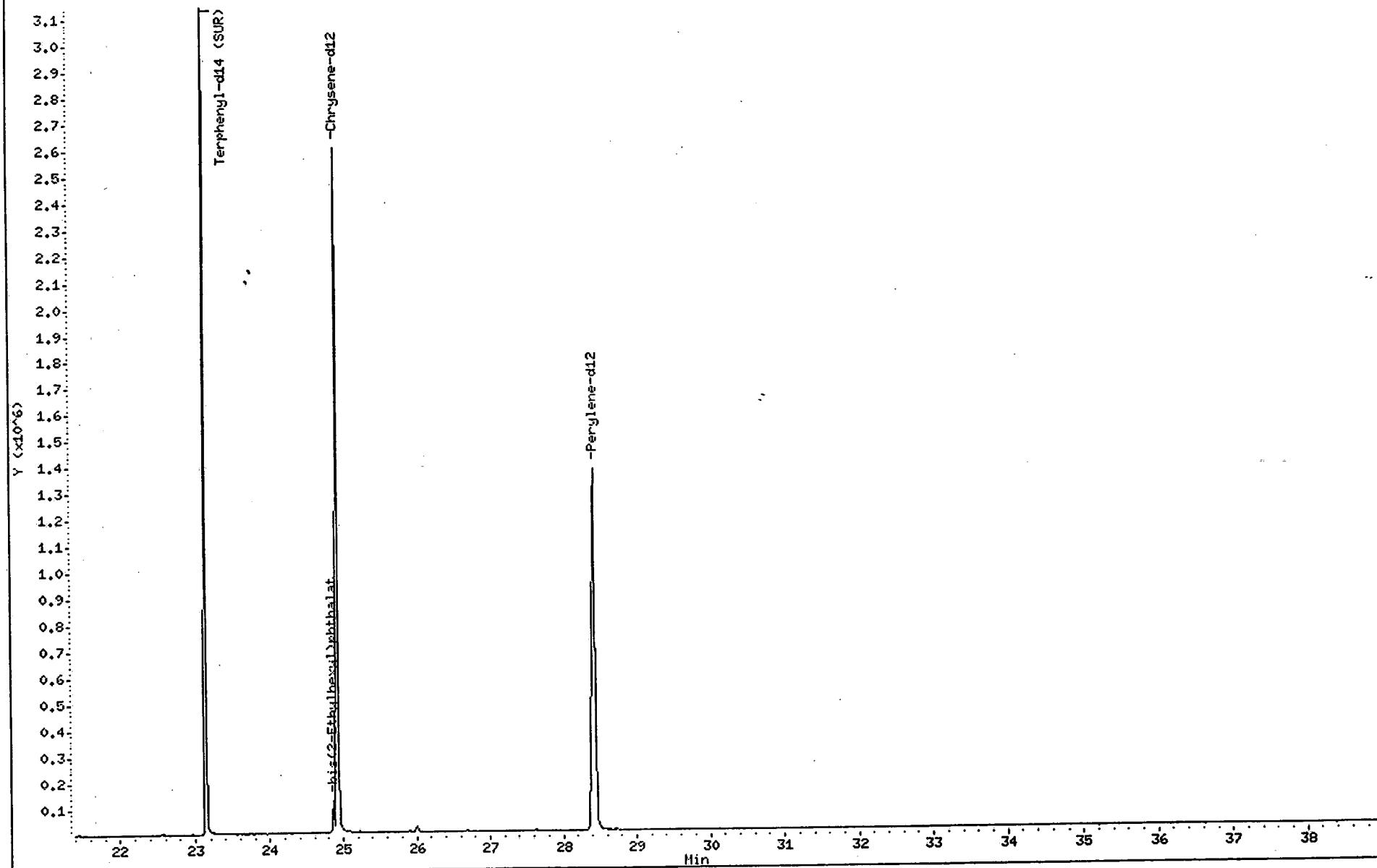
Instrument: BNAHS8.i

Operator: BNAHS 1

Column diameter: 0.53

56

/chem/BNAHS8.i/625/03-12-01/12mar01.b/aa3851.d (Part 2 of 2)



Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3851.d

Date : 13-MAR-2001 01:40

Client ID: MW21

Instrument: BNAMS8.i

Sample Info: 260053;980;2;1

Purge Volume: 980.0

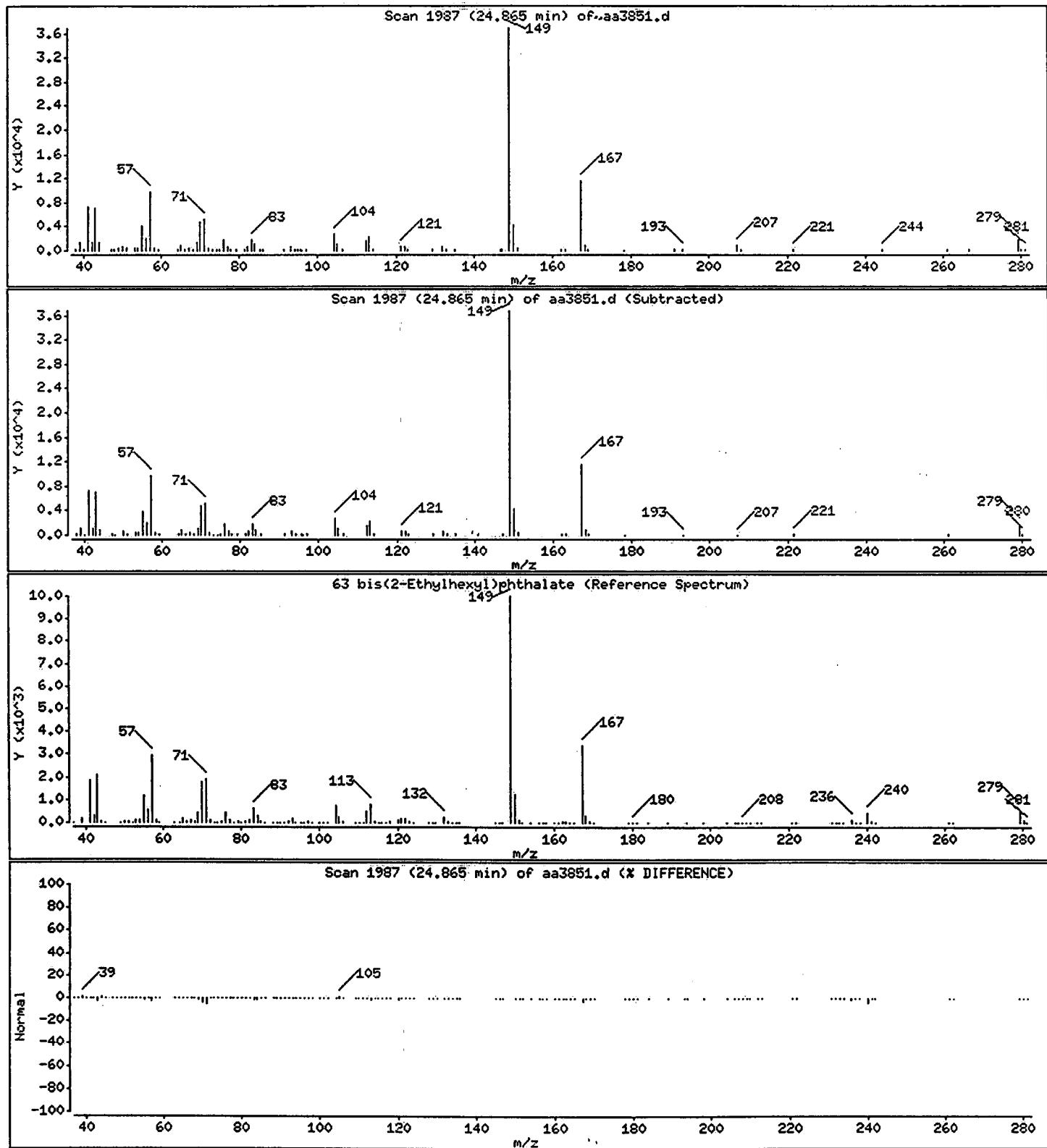
Operator: BNAMS 1

Column phase: DB-5

Column diameter: 0.53

63 bis(2-Ethylhexyl)phthalate

Concentration: 2.7 ug/L



Client ID: WP-B7  
Site: L.E. Carpenter

Lab Sample No: 260055  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Extracted: 03/03/01  
Date Analyzed: 03/13/01  
GC Column: DB-5  
Instrument ID: BNAMS8.i  
Lab File ID: aa3873.d

Matrix: WATER  
Level: LOW  
Sample Volume: 990 ml  
Extract Final Volume: 2.0 ml  
Dilution Factor: 50.0

SEMI-VOLATILE ORGANICS - GC/MS  
METHOD 625

<u>Parameter</u>	<u>Analytical Result</u>	<u>Method Detection Limit</u>
	<u>Units: ug/l</u>	<u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	4700	22

Data File: /chem/BNAMS8.i/625/03-13-01/13mar01.b/aa3873.d  
Report Date: 14-Mar-2001 08:57

STL Edison

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS8.i/625/03-13-01/13mar01.b/aa3873.d  
Lab Smp Id: 260055 Client Smp ID: WP-B7  
Inj Date : 13-MAR-2001 20:07  
Operator : BNAMS 1 Inst ID: BNAMS8.i  
Smp Info : 260055;990;2;50  
Misc Info : I524;BIS2EHP;6157;143;

Comment :

Method : /chem/BNAMS8.i/625/03-13-01/13mar01.b/bna625b.m

Meth Date : 13-Mar-2001 16:48 zhang Quant Type: ISTD

Cal Date : 13-MAR-2001 14:50 Cal File: aa3867.d

Als bottle: 12

Dil Factor: 50.00000

Integrator: HP RTE Compound Sublist: BIS2EHPb.sub

Target Version: 3.50

Processing Host: hpdl

Concentration Formula: Amt \* DF \* 1000\*Vt/Vo \* CpndVariable

Name	Value	Description
DF	50.00000	Dilution Factor
Vt	2.00000	Volume of final extract (mL)
Vo	990.00000	Volume of sample extracted (mL)

Cpnd Variable

Local Compound Variable

Compounds	QUANT SIG	CONCENTRATIONS						
		MASS	RT	EXP RT	REL RT	RESPONSE	(ug/ml)	( ug/L)
* 79 1,4-Dichlorobenzene-d4	152	12.911	12.920	(1.000)	353811	40.0000		
* 80 Naphthalene-d8	136	15.101	15.111	(1.000)	1284450	40.0000		
* 82 Acenaphthene-d10	164	18.039	18.048	(1.000)	767193	40.0000		
* 83 Phenanthrene-d10	188	20.516	20.525	(1.000)	1511391	40.0000		
63 bis(2-Ethylhexyl)phthalate	149	24.876	24.875	(0.998)	1702526	46.4989	4700	
* 81 Chrysene-d12	240	24.927	24.947	(1.000)	1701362	40.0000		
* 84 Perylene-d12	264	28.438	28.457	(1.000)	1658882	40.0000		

Data File: /chem/BNAMS8.i/625/03-13-01/13mar01.b/aa3873.d

Date : 13-MAR-2001 20:07

Client ID: WP-B7

Sample Info: 260055;990;2;50

Purge Volume: 990.0

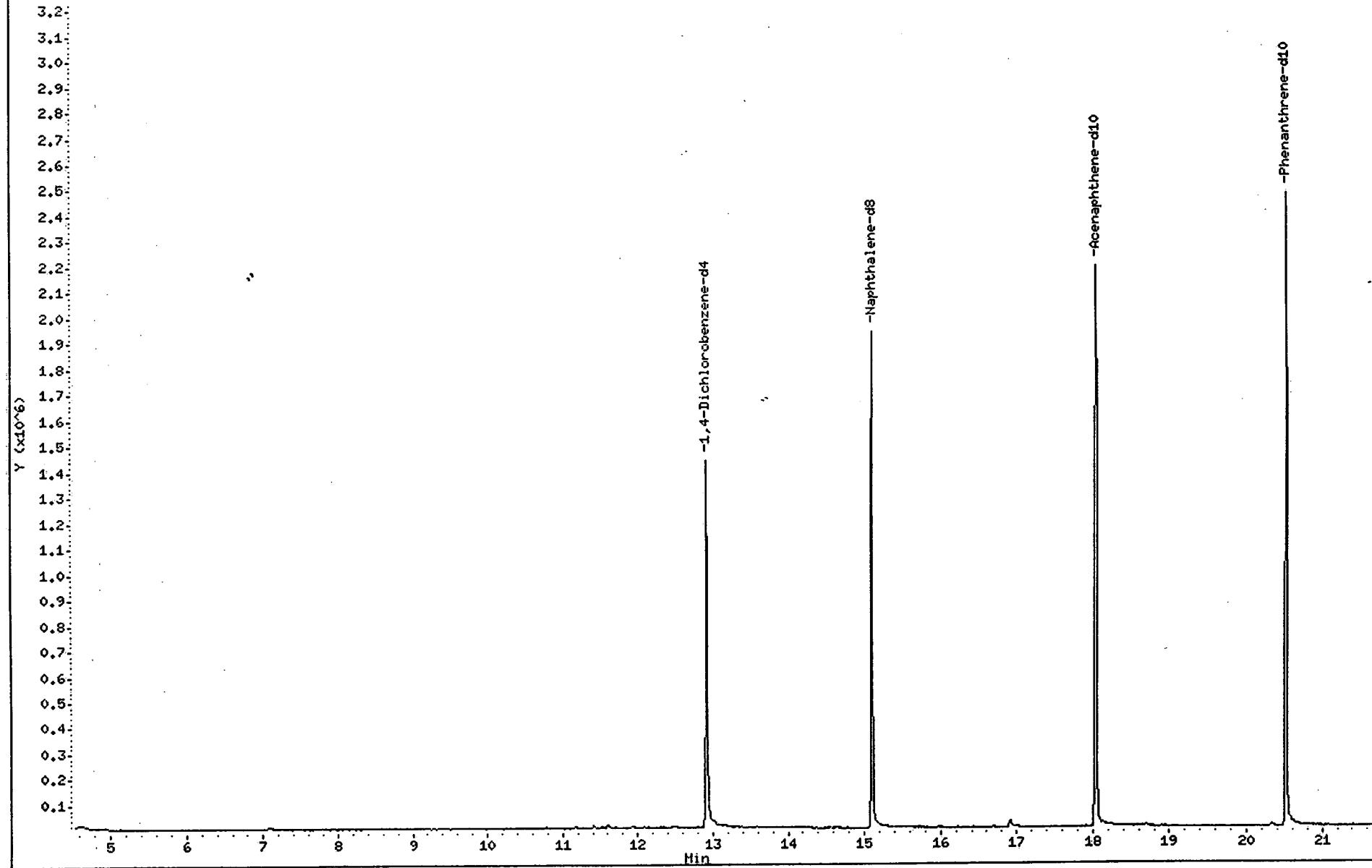
Column phase: DB-5

Instrument: BNAMS8.i

Operator: BNAMS 1

Column diameter: 0.53

/chem/BNAMS8.i/625/03-13-01/13mar01.b/aa3873.d (Part 1 of 2)



Data File: /chem/BNAHS8.i/625/03-13-01/13mar01.b/aa3873.d

Date : 13-MAR-2001 20:07

Client ID: WP-B7

Sample Info: 260056;990;2;50

Purge Volume: 990.0

Column phase: DB-5

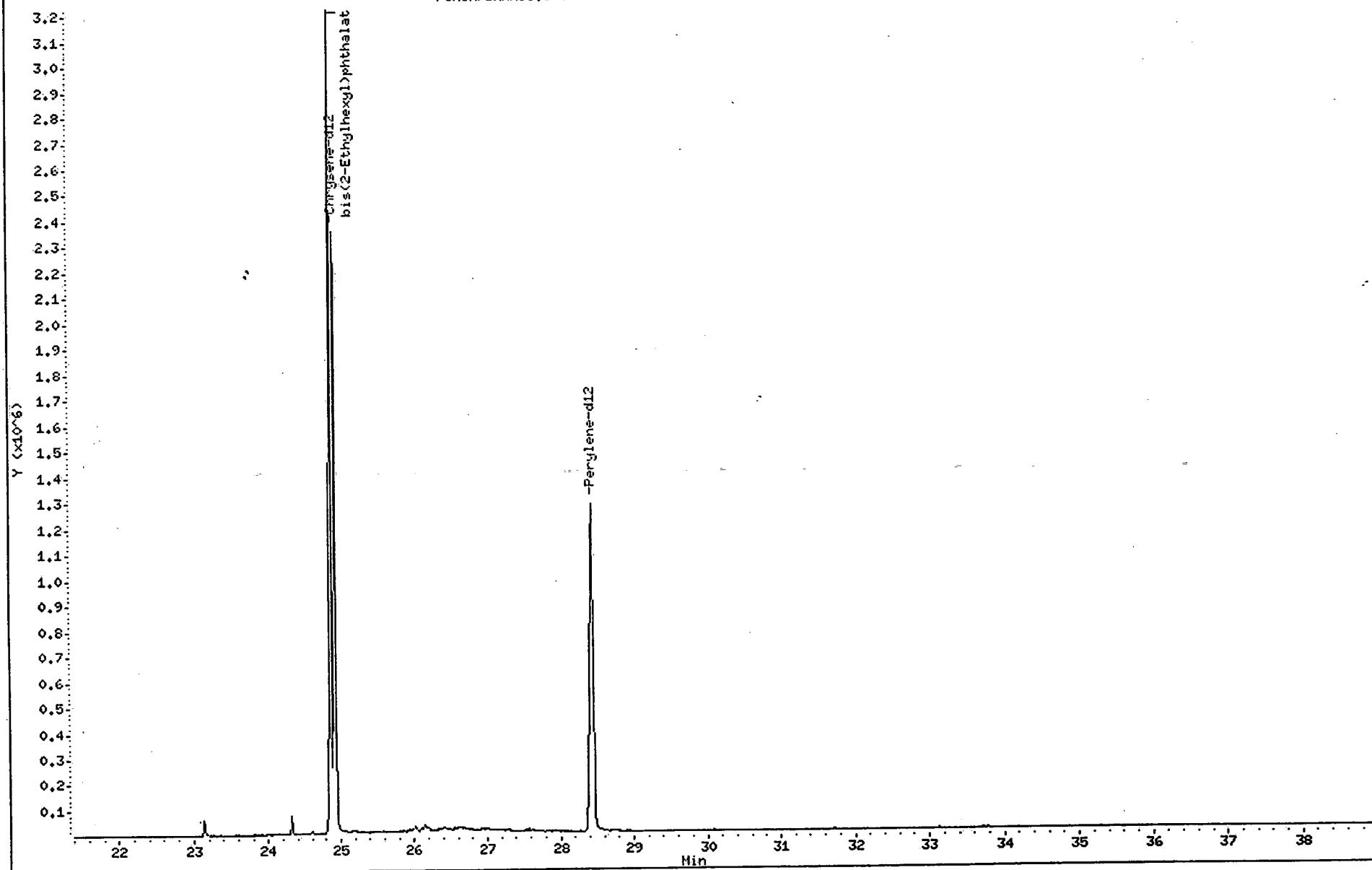
Instrument: BNAHS8.i

Operator: BNAHS 1

Column diameter: 0.53

61

/chem/BNAHS8.i/625/03-13-01/13mar01.b/aa3873.d (Part 2 of 2)



Data File: /chem/BNAMS8.i/625/03-13-01/13mar01.b/aa3873.d

Date : 13-MAR-2001 20:07

Client ID: WP-87

Instrument: BNAMS8.i

Sample Info: 260055;990;2;50

Purge Volume: 990.0

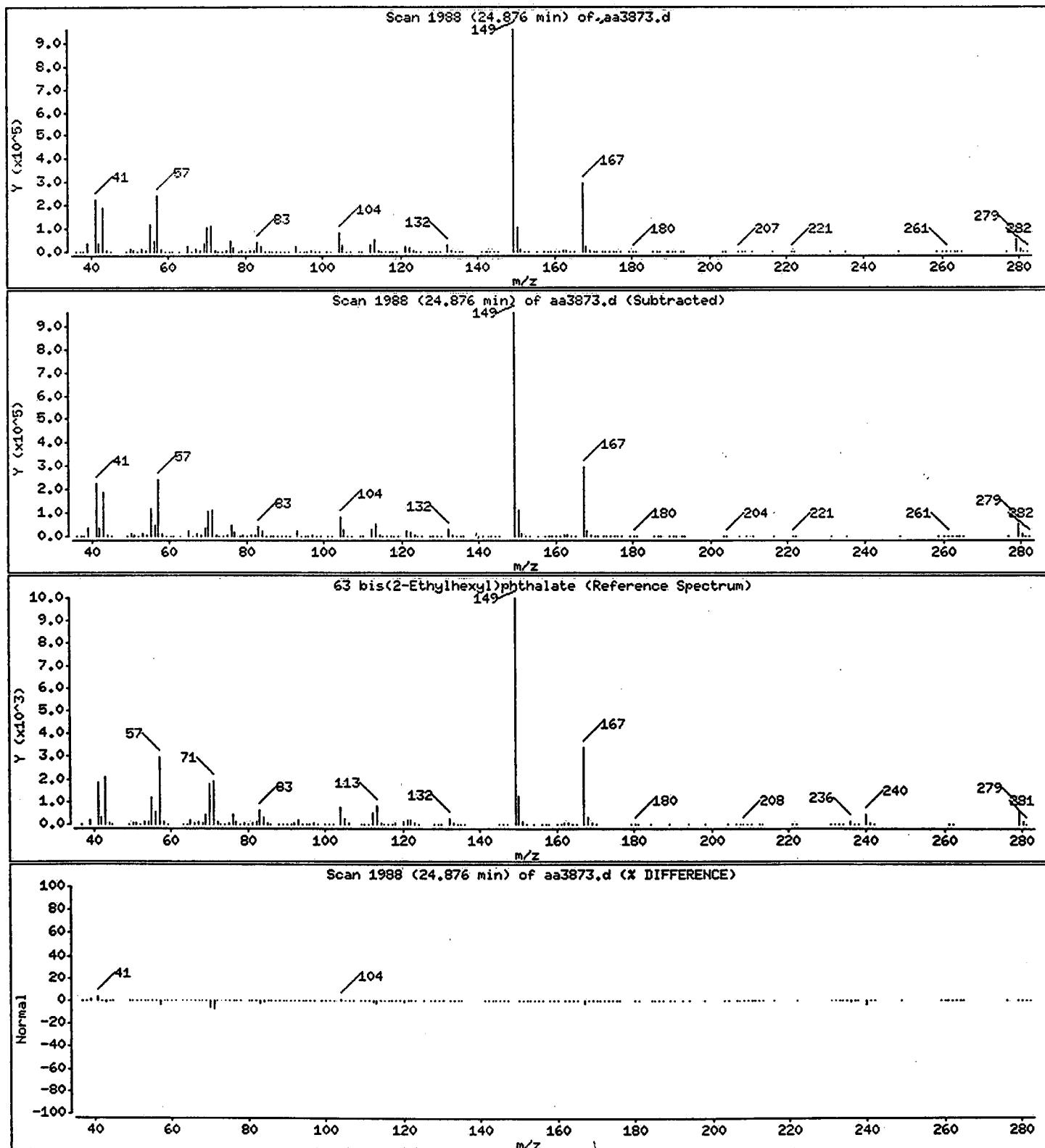
Operator: BNAMS 1

Column phase: DB-5

Column diameter: 0.53

63 bis(2-Ethylhexyl)phthalate

Concentration: 4700 ug/L



Client ID: MW11DD  
Site: L.E. Carpenter

Lab Sample No: 260056  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Extracted: 03/03/01  
Date Analyzed: 03/13/01  
GC Column: DB-5  
Instrument ID: BNAMS8.i  
Lab File ID: aa3853.d

Matrix: WATER  
Level: LOW  
Sample Volume: 1000 ml  
Extract Final Volume: 2.0 ml  
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS  
METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection Limit</u> <u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	0.9B	0.4

Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3853.d  
Report Date: 13-Mar-2001 09:12

STL Edison

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS  
Data file : /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3853.d  
Lab Smp Id: 260056 Client Smp ID: MW11DD  
Inj Date : 13-MAR-2001 03:24  
Operator : BNAMS 1 Inst ID: BNAMS8.i  
Smp Info : 260056;1000;2;1  
Misc Info : I524;BIS2EHP;6157;143;  
Comment :  
Method : /chem/BNAMS8.i/625/03-12-01/12mar01.b/bna625b.m  
Meth Date : 13-Mar-2001 08:17 zhang Quant Type: ISTD  
Cal Date : 12-MAR-2001 13:30 Cal File: aa3837.d  
Als bottle: 21  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: BIS2EHPb.sub  
Target Version: 3.50  
Processing Host: hpdl 47 JM

Concentration Formula: Amt \* DF \* 1000\*Vt/Vo \* CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	2.00000	Volume of final extract (mL)
Vo	1000.00000	Volume of sample extracted (mL)

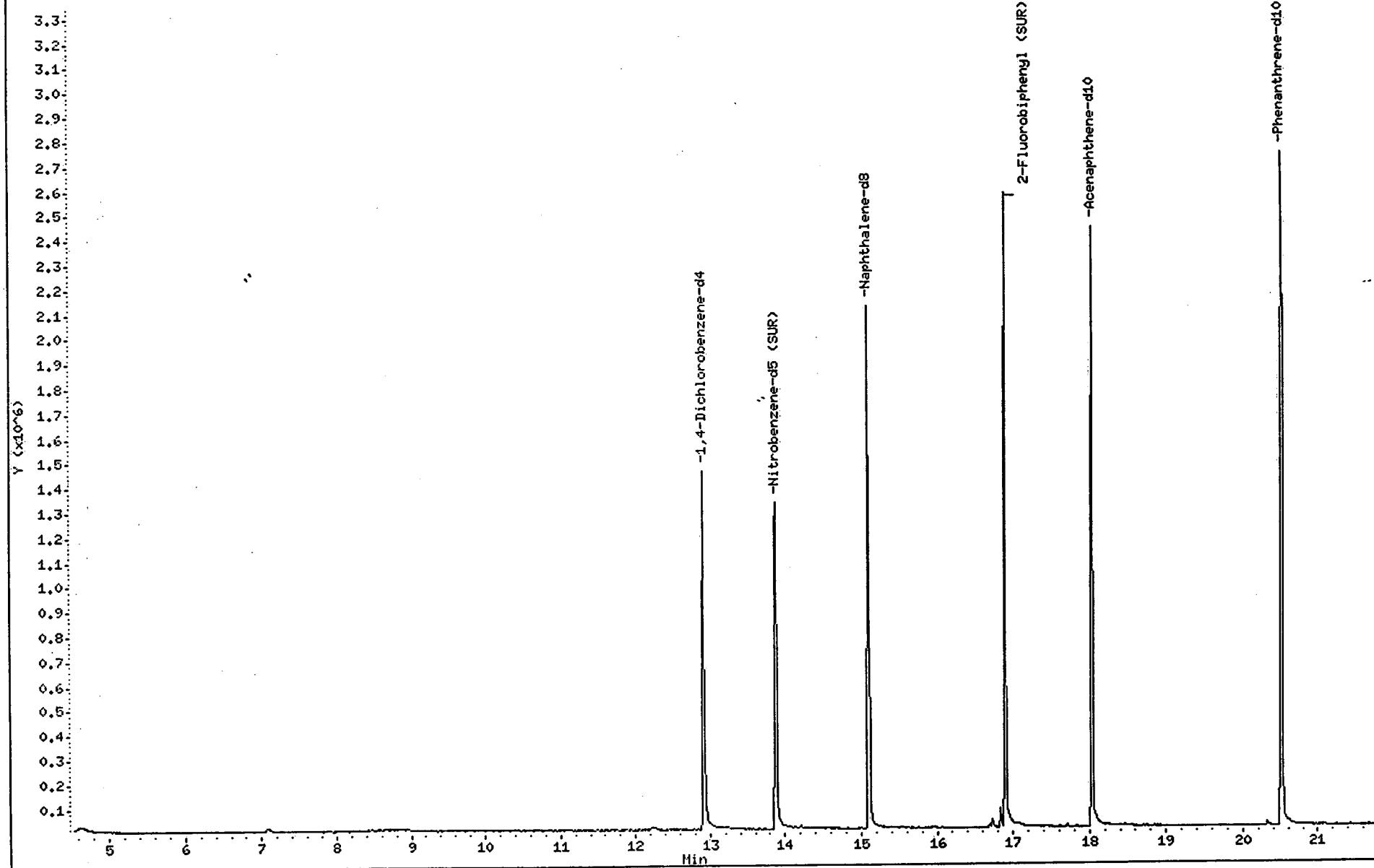
Cpnd Variable Local Compound Variable

Compounds	QUANT SIG	CONCENTRATIONS					
		MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/ml) FINAL ( ug/L)
* 79 1,4-Dichlorobenzene-d4	152	12.910	12.893	(1.000)	368964	40.0000	
\$ 76 Nitrobenzene-d5 (SUR)	82	13.883	13.855	(0.919)	649320	43.6891	87
* 80 Naphthalene-d8	136	15.101	15.083	(1.000)	1370444	40.0000	
\$ 77 2-Fluorobiphenyl (SUR)	172	16.902	16.885	(0.937)	1069079	36.6760	73
* 82 Acenaphthene-d10	164	18.038	18.021	(1.000)	883400	40.0000	
* 83 Phenanthrene-d10	188	20.515	20.498	(1.000)	1633812	40.0000	
\$ 78 Terphenyl-d14 (SUR)	244	23.145	23.118	(0.928)	1755889	44.8679	90
63 bis(2-Ethylhexyl)phthalate	149	24.865	24.858	(0.997)	18702	0.45625	0.91
* 81 Chrysene-d12	240	24.937	24.919	(1.000)	1879557	40.0000	
* 84 Perylene-d12	264	28.447	28.410	(1.000)	1749654	40.0000	

Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3853.d  
Date : 13-MAR-2001 03:24  
Client ID: MW11DB  
Sample Info: 260056;1000;2;1  
Purge Volume: 1000.0  
Column phase: DB-5

Instrument: BNAMS8.i  
Operator: BNAMS 1  
Column diameter: 0.53

/chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3853.d (Part 1 of 2)

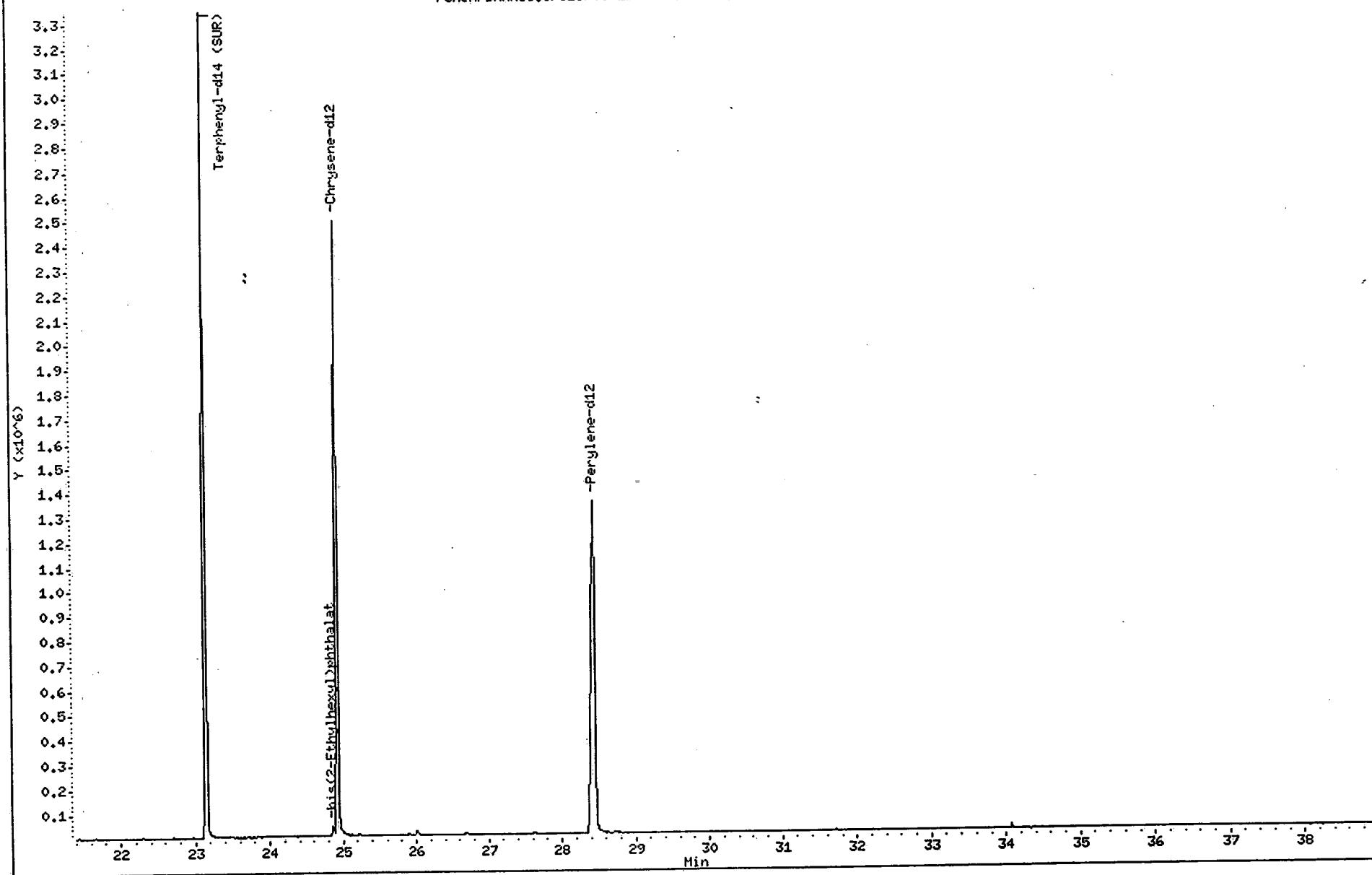


Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3853.d  
Date : 13-MAR-2001 03:24  
Client ID: MH11DD  
Sample Info: 260056;1000;2;1  
Purge Volume: 1000.0  
Column phase: DB-5

Instrument: BNAMS8.i  
Operator: BNAMS 1  
Column diameter: 0.53

66

/chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3853.d (Part 2 of 2)



Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3853.d

Date : 13-MAR-2001 03:24

Client ID: MW11DD

Instrument: BNAMS8.i

Sample Info: 260056;1000;2;1

Purge Volume: 1000.0

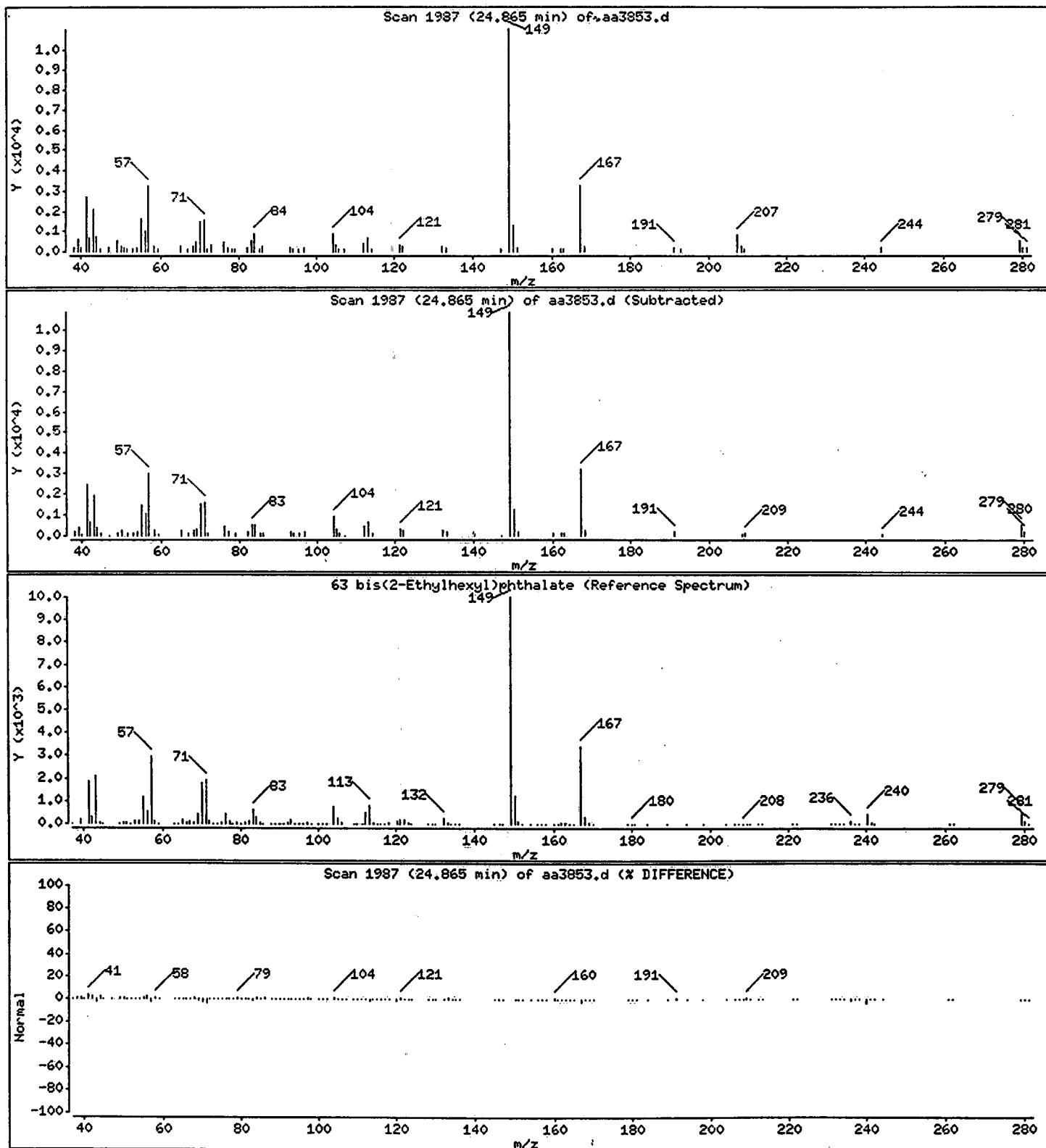
Operator: BNAMS 1

Column phase: DB-5

Column diameter: 0.53

63 bis(2-Ethylhexyl)phthalate

Concentration: 0.91 ug/L



Client ID: Field\_Blank  
Site: L.E. Carpenter

Lab Sample No: 260057  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Extracted: 03/03/01  
Date Analyzed: 03/13/01  
GC Column: DB-5  
Instrument ID: BNAMS8.i  
Lab File ID: aa3854.d

Matrix: WATER  
Level: LOW  
Sample Volume: 950 ml  
Extract Final Volume: 2.0 ml  
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS  
METHOD 625

Parameter

Analytical Result  
Units: ug/l

Method Detection  
Limit  
Units: ug/l

bis(2-Ethylhexyl)phthalate                    1.3B                    0.5

Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3854.d  
Report Date: 13-Mar-2001 09:12

STL Edison

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3854.d  
Lab Smp Id: 260057 Client Smp ID: Field\_Blank  
Inj Date : 13-MAR-2001 04:16  
Operator : BNAMS 1 Inst ID: BNAMS8.i  
Smp Info : 260057;950;2;1  
Misc Info : I524;BIS2EHP;6157;143;  
Comment :  
Method : /chem/BNAMS8.i/625/03-12-01/12mar01.b/bna625b.m  
Meth Date : 13-Mar-2001 08:17 zhang Quant Type: ISTD  
Cal Date : 12-MAR-2001 13:30 Cal File: aa3837.d  
Als bottle: 22  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: BIS2EHPb.sub  
Target Version: 3.50  
Processing Host: hpd1 17 Jt

Concentration Formula: Amt \* DF \* 1000\*Vt/Vo \* CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	2.00000	Volume of final extract (mL)
Vo	950.00000	Volume of sample extracted (mL)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG	CONCENTRATIONS						
		MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/ml)	FINAL (ug/L)
* 79 1,4-Dichlorobenzene-d4	152	12.911	12.893	(1.000)	369169	40.0000		
\$ 76 Nitrobenzene-d5 (SUR)	82	13.883	13.855	(0.919)	610027	41.5533	87	
* 80 Naphthalene-d8	136	15.101	15.083	(1.000)	1353690	40.0000		
\$ 77 2-Fluorobiphenyl (SUR)	172	16.903	16.885	(0.937)	1089348	38.8535	82	
* 82 Acenaphthene-d10	164	18.039	18.021	(1.000)	849699	40.0000		
* 83 Phenanthrene-d10	188	20.516	20.498	(1.000)	1596041	40.0000		
\$ 78 Terphenyl-d14 (SUR)	244	23.146	23.118	(0.928)	1792690	48.1011	100	
63 bis(2-Ethylhexyl)phthalate	149	24.876	24.858	(0.998)	24887	0.63753	1.3	
* 81 Chrysene-d12	240	24.937	24.919	(1.000)	1789964	40.0000		
* 84 Perylene-d12	264	28.448	28.410	(1.000)	1670801	40.0000		

Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3854.d

Date : 13-MAR-2001 04:16

Client ID: Field\_Bank

Sample Info: 260057;950;2;1

Purge Volume: 950.0

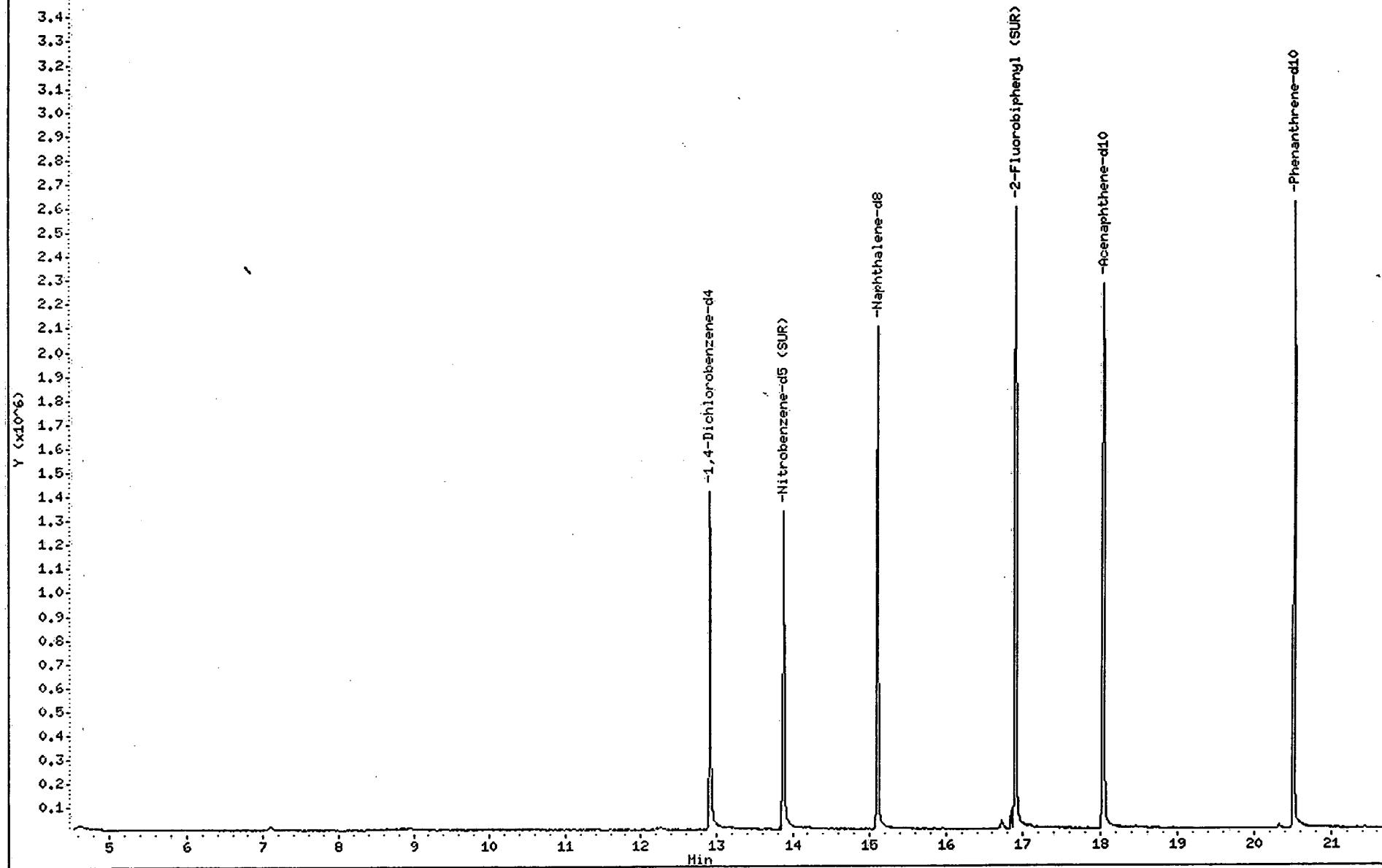
Column phase: DB-5

Instrument: BNAMS8.i

Operator: BNAMS 1

Column diameter: 0.53

/chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3854.d (Part 1 of 2)



Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3854.d

Date : 13-MAR-2001 04:16

Client ID: Field\_Blank

Sample Info: 260057;950;2:1

Purge Volume: 950.0

Column phase: DB-5

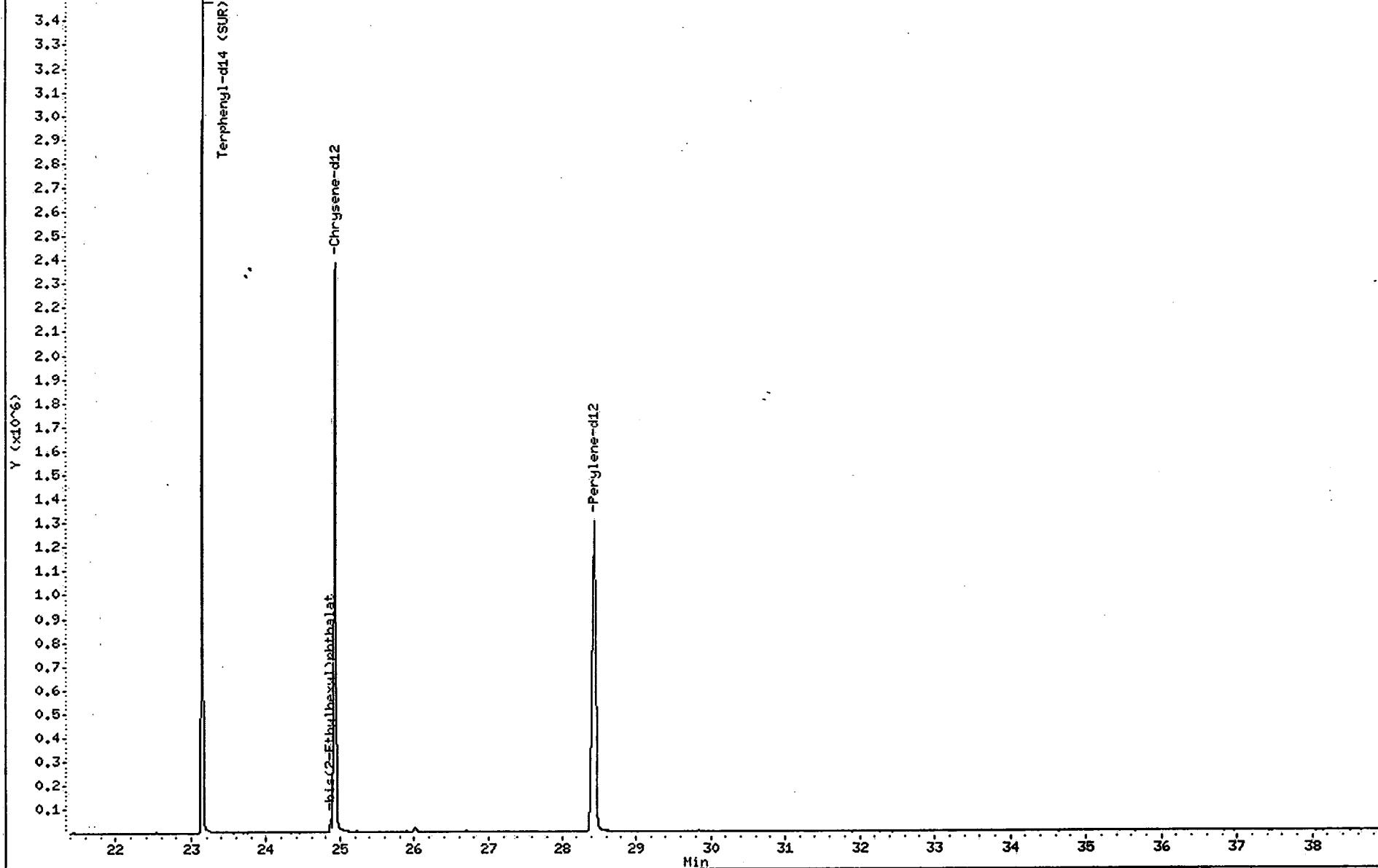
Instrument: BNAMS8.i

Operator: BNAMS 1

Column diameter: 0.53

71

/chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3854.d (Part 2 of 2)



Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3854.d

Date : 13-MAR-2001 04:16

Client ID: Field\_Blank

Instrument: BNAMS8.i

Sample Info: 260057;950;2;1

Operator: BNAMS 1

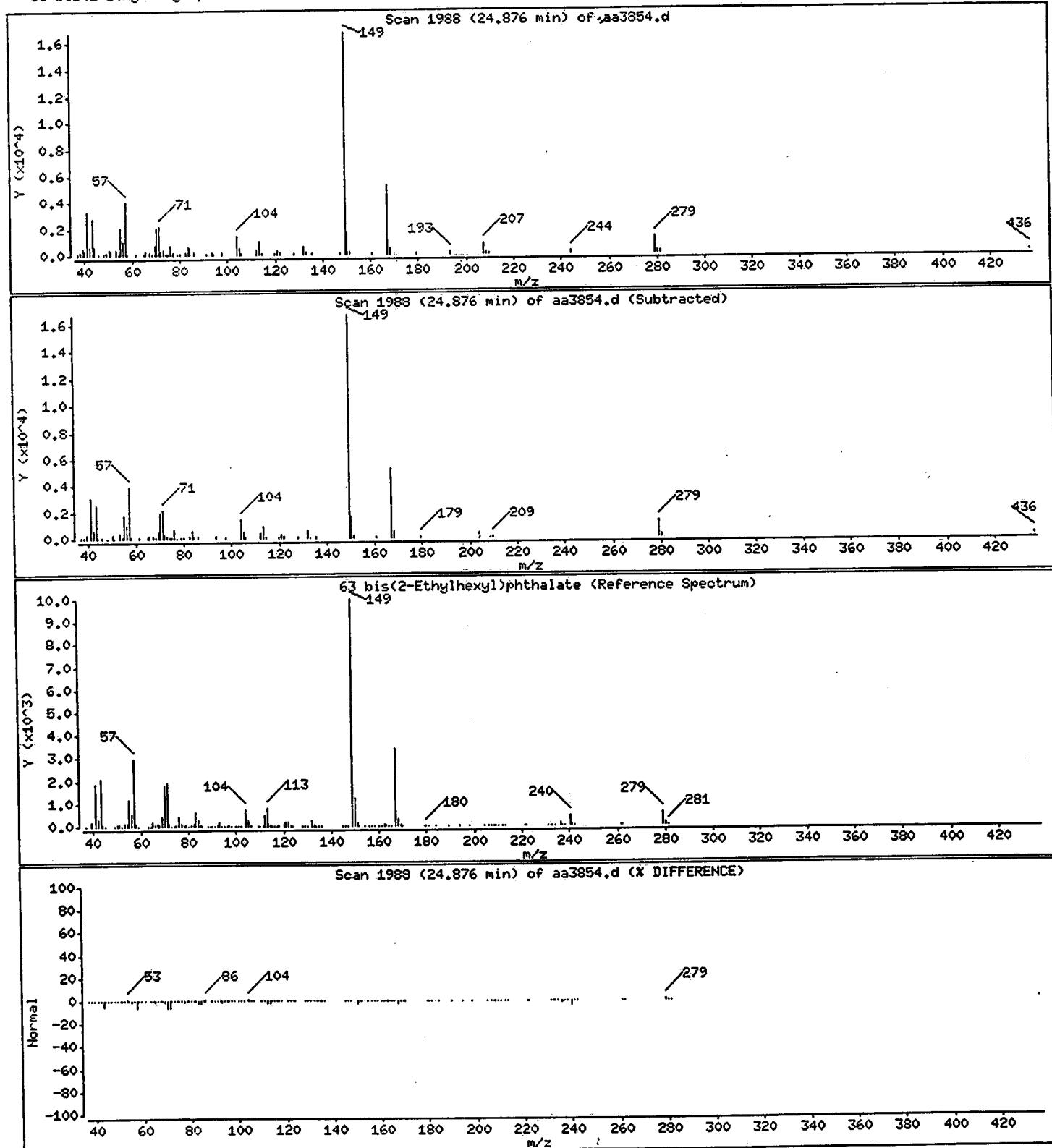
Purge Volume: 950.0

Column diameter: 0.53

Column phase: DB-5

63 bis(2-Ethylhexyl)phthalate

Concentration: 1.3 ug/L



SEMI-VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK  
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab File ID: AA3832

DFTPP Injection Date: 03/12/01

Instrument ID: BNAMS8

DFTPP Injection Time: 0941

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	42.4
68	Less than 2.0% of mass 69	0.0 ( 0.0)1
69	Mass 69 relative abundance	58.6
70	Less than 2.0% of mass 69	0.1 ( 0.3)1
127	40.0 - 60.0% of mass 198	43.3
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 30.0% of mass 198	21.8
365	Greater than 1.0% of mass 198	3.26
441	0.0 - 100.0% of mass 443	11.0 ( 84.7)2
442	40.0 - 110.0% of mass 198	66.5
443	17.0 - 23.0% of mass 442	13.0 ( 19.5)3

1-Value is % mass 69

2-Value is % mass 443

3-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

CLIENT ID	LAB SAMPLE No.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01 AASTD050	AASTD050	AA3833	03/12/01	1002
02 AASTD120	AASTD120	AA3834	03/12/01	1054
03 AASTD010	AASTD010	AA3835	03/12/01	1146
04 AASTD080	AASTD080	AA3836	03/12/01	1238
05 AASTD020	AASTD020	AA3837	03/12/01	1330
06 WB062A	WB062A	AA3845	03/12/01	2029
07 TRIP_BLANK	260045	AA3847	03/12/01	2213
08 MW11D	260048	AA3848	03/12/01	2305
09 MW14S	260050	AA3849	03/12/01	2357
10 MW25	260052	AA3850	03/13/01	0048
11 MW21	260053	AA3851	03/13/01	0140
12 MW11DD	260056	AA3853	03/13/01	0324
13 FIELD_BLANK	260057	AA3854	03/13/01	0416
14				
15				
16				
17				
18				

Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3832.d

Date : 12-MAR-2001 09:41

Client ID:

Instrument: BNAMS8.i

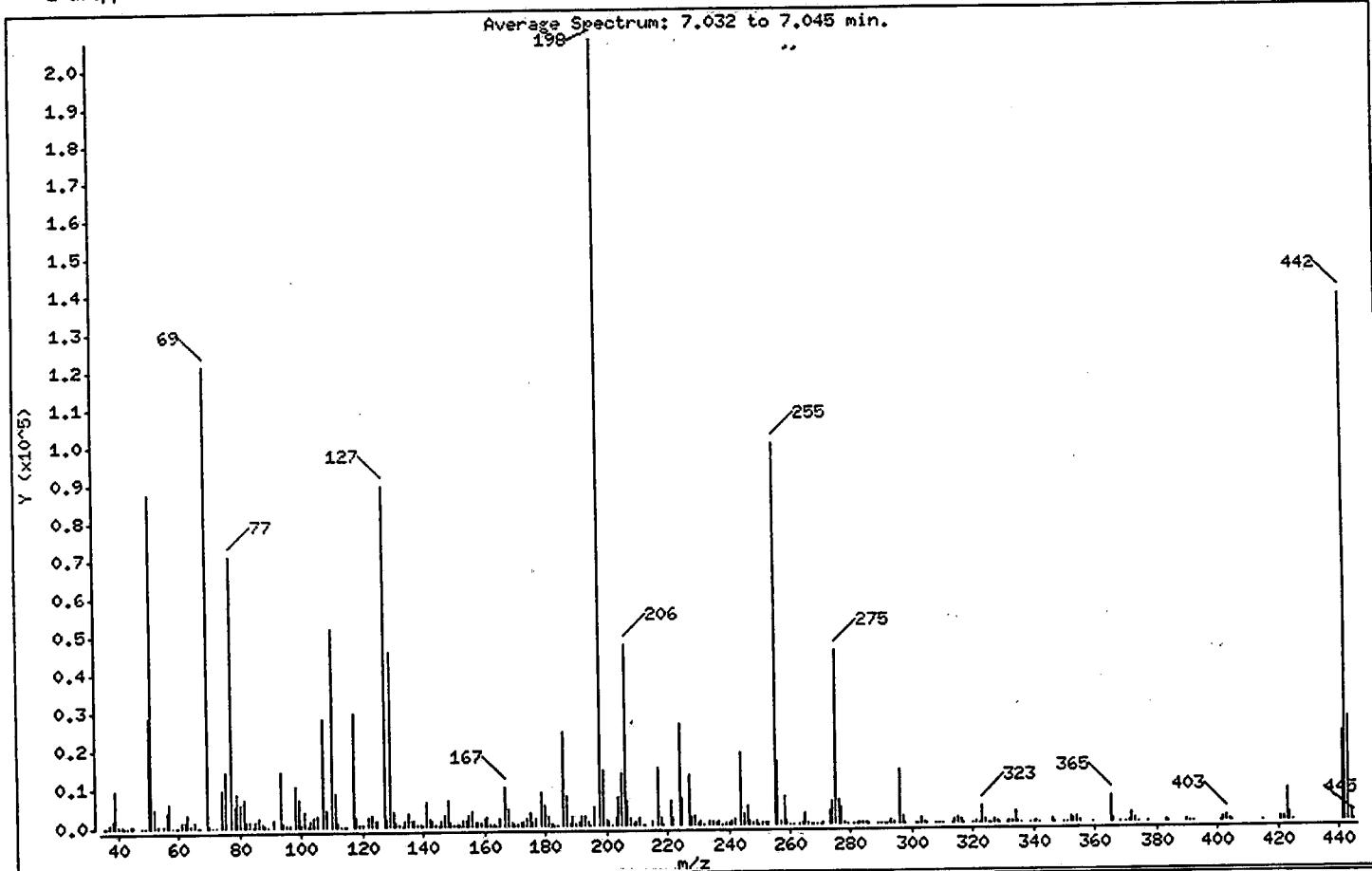
Sample Info: AADFT071

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	42.38
68	Less than 2.00% of mass 69	0.00 (< 0.00)
69	Mass 69 relative abundance	58.56
70	Less than 2.00% of mass 69	0.15 (< 0.25)
127	40.00 - 60.00% of mass 198	43.26
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.86
275	10.00 - 30.00% of mass 198	21.62
365	Greater than 1.00% of mass 198	3.26
441	0.01 - 100.00% of mass 443	10.98 (< 84.69)
442	40.00 - 110.00% of mass 198	66.55
443	17.00 - 23.00% of mass 442	12.97 (< 19.49)

Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3832.d

Date : 12-MAR-2001 09:41

Client ID:

Instrument: BNAMS8.i

Sample Info: AADFT071

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: aa3832.d

Spectrum: Average Spectrum: 7.032 to 7.045 min.

Location of Maximum: 198.00

Number of points: 304

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	63	125.00	1621	207.00	6268	298.00	62
36.00	217	127.00	89664	208.00	1891	301.00	238
37.00	807	128.00	1719	209.00	629	302.00	161
38.00	2094	129.00	45616	210.00	824	303.00	1583
39.00	9570	130.00	3697	211.00	1976	304.00	491
40.00	544	131.00	608	212.00	230	305.00	35
41.00	400	132.00	346	213.00	232	308.00	177
42.00	136	133.00	42	215.00	773	309.00	70
43.00	202	134.00	1536	217.00	14718	310.00	206
44.00	348	135.00	3133	218.00	1846	313.00	49
45.00	359	136.00	1484	219.00	179	314.00	717
48.00	153	137.00	1479	221.00	5985	315.00	1581
49.00	219	138.00	330	222.00	1823	316.00	900
50.00	28400	139.00	315	224.00	26344	317.00	76
51.00	87840	140.00	170	225.00	6523	320.00	43
52.00	4577	141.00	5972	227.00	12995	321.00	453
53.00	273	142.00	1797	228.00	1953	322.00	55
55.00	652	143.00	1253	229.00	2387	323.00	4436
56.00	3697	144.00	366	230.00	433	324.00	839
57.00	6404	145.00	163	231.00	924	325.00	77
58.00	231	146.00	1240	232.00	158	326.00	55
59.00	140	147.00	2701	234.00	941	327.00	851
60.00	223	148.00	6846	235.00	817	328.00	394
61.00	1245	149.00	1056	236.00	685	329.00	104
62.00	1590	150.00	282	237.00	938	331.00	36
63.00	3552	151.00	625	238.00	164	332.00	375
64.00	500	152.00	245	239.00	504	333.00	445
65.00	1571	153.00	1666	240.00	453	334.00	2756
66.00	184	154.00	1345	241.00	946	335.00	694
67.00	180	155.00	2985	242.00	1253	336.00	83
69.00	121376	156.00	3995	244.00	18456	339.00	133
70.00	304	157.00	810	245.00	2641	340.00	40
71.00	37	158.00	952	246.00	4819	341.00	537
72.00	76	159.00	771	247.00	1031	342.00	114
74.00	9444	160.00	1696	248.00	341	346.00	1115

Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3832.d

Date : 12-MAR-2001 09:41

Client ID:

Instrument: BNAMS8.i

Sample Info: AADFT071

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: aa3832.d

Spectrum: Average Spectrum: 7.032 to 7.845 min.

Location of Maximum: 198.00

Number of points: 304

m/z	Y	m/z	Y	m/z	Y	m/z	Y
75.00	14487	161.00	2274	249.00	867	347.00	166
77.00	70752	162.00	372	250.00	148	350.00	46
78.00	5150	163.00	273	251.00	311	351.00	52
79.00	8430	164.00	44	252.00	346	352.00	1233
80.00	5735	165.00	2108	253.00	376	353.00	905
81.00	6968	167.00	9792	255.00	99952	354.00	1228
82.00	1431	168.00	4093	256.00	16042	355.00	292
83.00	1344	169.00	892	257.00	783	359.00	105
84.00	165	170.00	453	258.00	7062	365.00	6756
85.00	1245	171.00	478	259.00	1134	366.00	756
86.00	2171	172.00	1026	260.00	178	368.00	35
87.00	1026	173.00	1150	261.00	172	370.00	159
88.00	329	174.00	1888	263.00	58	371.00	442
89.00	104	175.00	3458	264.00	275	372.00	2505
91.00	1897	176.00	800	265.00	2980	373.00	739
93.00	14309	177.00	1784	266.00	706	374.00	53
94.00	886	179.00	8444	267.00	168	377.00	39
95.00	245	180.00	5053	268.00	49	383.00	611
96.00	513	181.00	2412	269.00	60	384.00	167
98.00	10283	182.00	354	270.00	193	390.00	284
99.00	7354	183.00	193	271.00	295	391.00	162
100.00	472	184.00	162	273.00	3310	392.00	157
101.00	3709	186.00	24448	274.00	5611	401.00	161
102.00	223	187.00	7462	275.00	45224	402.00	1040
103.00	1470	188.00	274	276.00	6125	403.00	1317
104.00	2612	189.00	2177	277.00	4414	404.00	568
105.00	2649	190.00	450	278.00	568	405.00	88
107.00	28176	191.00	758	279.00	125	415.00	38
108.00	4130	192.00	2550	281.00	97	421.00	1076
110.00	52128	193.00	2618	282.00	116	422.00	1158
111.00	8366	194.00	749	283.00	472	423.00	7904
112.00	971	195.00	231	284.00	364	424.00	1714
113.00	197	196.00	4992	285.00	668	425.00	171
114.00	119	198.00	207232	286.00	142	441.00	22768
115.00	93	199.00	14211	289.00	191	442.00	137920

Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3832.d

Date : 12-MAR-2001 09:41

Client ID:

Instrument: BNAMS8.i

Sample Info: AADFT071

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: aa3832.d

Spectrum: Average Spectrum: 7.032 to 7.045 min.

Location of Maximum: 198.00

Number of points: 304

m/z	Y	m/z	Y	m/z	Y	m/z	Y
117.00	29536   200.00	1231   290.00	125   443.00	26880			
118.00	2228   201.00	771   291.00	50   444.00	2333			
119.00	279   202.00	107   292.00	134   445.00	116			
120.00	391   203.00	1898   293.00	1013				
122.00	2241   204.00	7357   294.00	251				
123.00	3080   205.00	13272   296.00	13619				
124.00	1574   206.00	47200   297.00	1980				

Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3832.d

Date : 12-MAR-2001 09:41

Client ID:

Sample Info: AADFT071

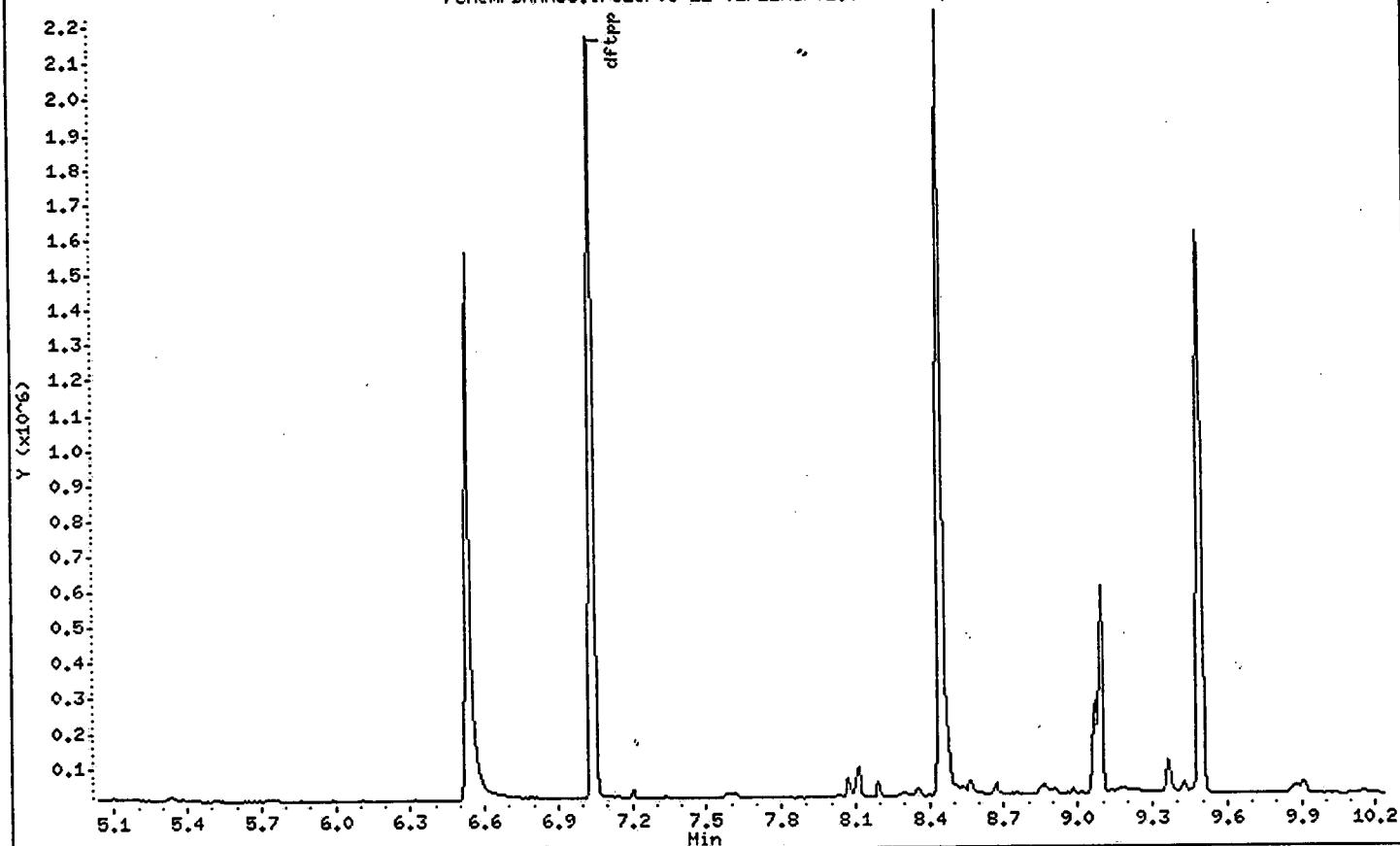
Instrument: BNAMS8.i

Operator: BNA2

Column diameter: 0.25

Column phase: DB-5

/chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3832.d



SEMI-VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK  
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab File ID: AA3861

DFTPP Injection Date: 03/13/01

Instrument ID: BNAMS8

DFTPP Injection Time: 1004

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	40.4
68	Less than 2.0% of mass 69	0.0 ( 0.0) 1
69	Mass 69 relative abundance	54.4
70	Less than 2.0% of mass 69	0.2 ( 0.3) 1
127	40.0 - 60.0% of mass 198	40.6
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 30.0% of mass 198	20.3
365	Greater than 1.0% of mass 198	2.73
441	0.0 - 100.0% of mass 443	9.7 ( 83.5) 2
442	40.0 - 110.0% of mass 198	59.2
443	17.0 - 23.0% of mass 442	11.6 ( 19.5) 3

1-Value is % mass 69

2-Value is % mass 443

3-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

CLIENT ID	LAB SAMPLE No.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01 AASTD050	AASTD050	AA3862	03/13/01	1027
02 AASTD010	AASTD010	AA3864	03/13/01	1211
03 AASTD120	AASTD120	AA3865	03/13/01	1304
04 AASTD080	AASTD080	AA3866	03/13/01	1357
05 AASTD020	AASTD020	AA3867	03/13/01	1450
06 WP-B7	260055	AA3873	03/13/01	2007
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				

Data File: /chem/BNAMS8.i/625/03-13-01/13mar01.b/aa3861.d

Date : 13-MAR-2001 10:04

Client ID:

Instrument: BNAMS8.i

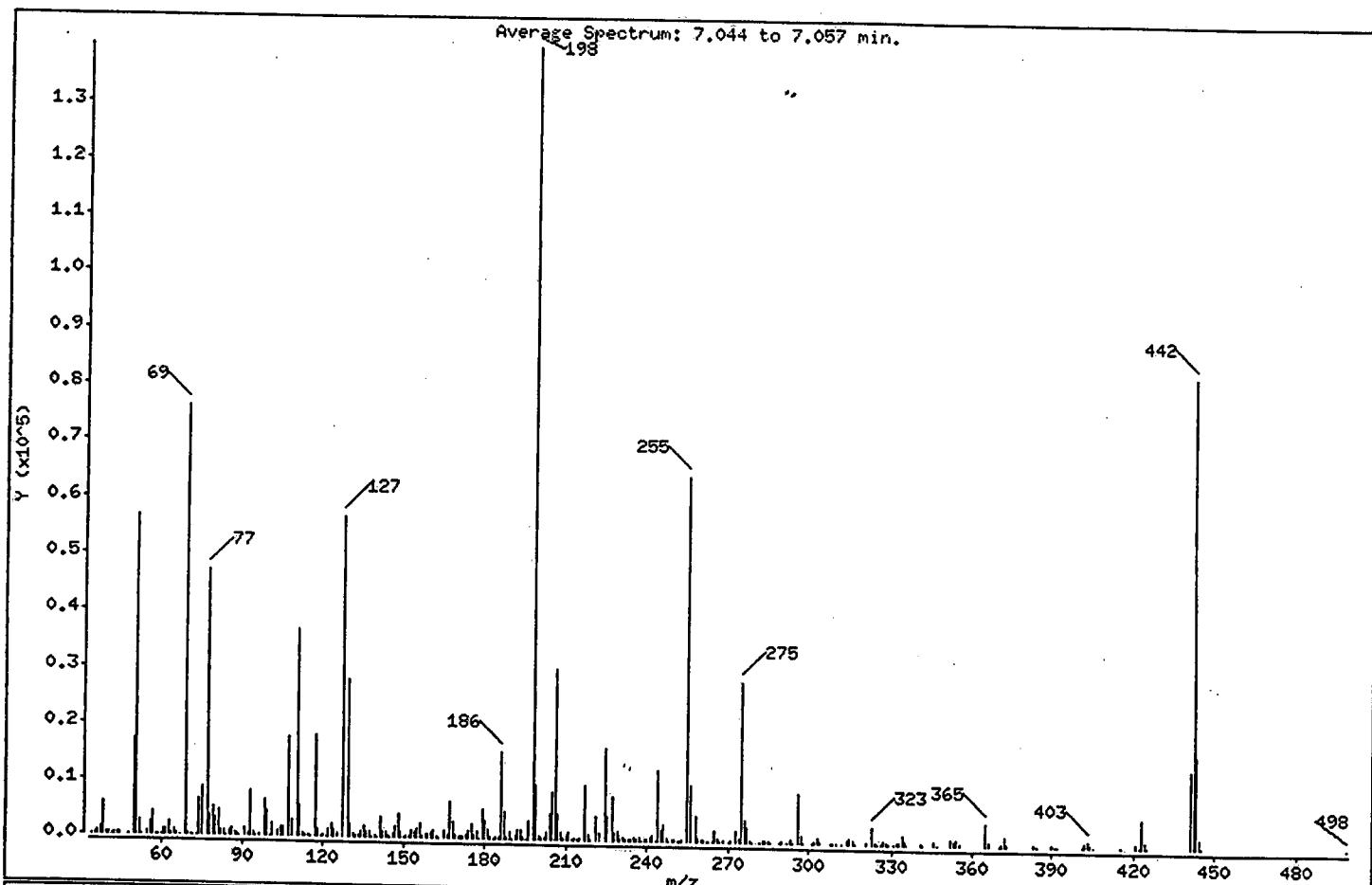
Sample Info: AADFT072

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	X RELATIVE ABUNDANCE	
		ABUNDANCE	ABUNDANCE
198	Base Peak, 100% relative abundance	100.00	
51	30.00 - 60.00% of mass 198	40.42	
68	Less than 2.00% of mass 69	0.00 < 0.00	
69	Mass 69 relative abundance	54.39	
70	Less than 2.00% of mass 69	0.19 < 0.34	
127	40.00 - 60.00% of mass 198	40.55	
197	Less than 1.00% of mass 198	0.00	
199	5.00 - 9.00% of mass 198	6.86	
275	10.00 - 30.00% of mass 198	20.29	
365	Greater than 1.00% of mass 198	2.73	
441	0.01 - 100.00% of mass 443	9.65 < 83.45	
442	40.00 - 110.00% of mass 198	59.18	
443	17.00 - 23.00% of mass 442	11.57 < 19.54	

Date : 13-MAR-2001 10:04

Client ID:

Instrument: BNAMS8.i

Sample Info: AADFT072

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: aa3861.d

Spectrum: Average Spectrum; 7.044 to 7.057 min.

Location of Maximum: 198.00 "

Number of points: 296

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	135   122.00	1399   201.00	346   286.00	74			
36.00	173   123.00	2117   202.00	283   289.00	118			
37.00	511   124.00	1179   203.00	1148   290.00	168			
38.00	1294   125.00	739   204.00	4591   292.00	102			
39.00	5919   127.00	56768   205.00	8360   293.00	591			
40.00	338   129.00	27992   206.00	30312   294.00	158			
41.00	289   130.00	2408   207.00	4406   296.00	8775			
42.00	72   131.00	502   208.00	1297   297.00	1321			
43.00	270   132.00	184   209.00	371   298.00	72			
44.00	282   133.00	165   210.00	747   301.00	123			
45.00	194   134.00	829   211.00	1382   302.00	211			
48.00	132   135.00	1929   212.00	69   303.00	967			
50.00	17176   136.00	877   213.00	188   304.00	263			
51.00	56584   137.00	1058   214.00	101   308.00	123			
52.00	2542   138.00	68   215.00	460   309.00	88			
53.00	159   139.00	257   217.00	9580   310.00	131			
55.00	573   140.00	112   218.00	1067   312.00	62			
56.00	2168   141.00	3615   219.00	45   314.00	491			
57.00	4104   142.00	1959   221.00	4338   315.00	996			
58.00	156   143.00	832   222.00	1232   316.00	599			
59.00	94   144.00	190   224.00	16416   317.00	146			
60.00	103   145.00	76   225.00	4064   321.00	354			
61.00	1037   146.00	589   227.00	7750   323.00	2763			
62.00	929   147.00	1774   228.00	1136   324.00	454			
63.00	2161   148.00	4255   229.00	1635   325.00	38			
64.00	344   149.00	827   230.00	274   326.00	44			
65.00	1090   150.00	118   231.00	649   327.00	485			
66.00	186   151.00	394   232.00	192   328.00	282			
67.00	149   152.00	307   233.00	226   329.00	37			
69.00	76144   153.00	1207   234.00	472   331.00	87			
70.00	261   154.00	805   235.00	586   332.00	236			
71.00	131   155.00	1746   236.00	348   333.00	214			
72.00	84   156.00	2507   237.00	542   334.00	1566			
73.00	145   157.00	473   238.00	42   335.00	532			
74.00	6397   158.00	721   239.00	340   336.00	56			

Data File: /chem/BNAMSS.i/625/03-13-01/13mar01.b/aa3861.d

Date : 13-MAR-2001 10:04

Client ID:

Instrument: BNAMSS.i

Sample Info: AADFT072

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: aa3861.d

Spectrum: Average Spectrum: 7.044 to 7.057 min.

Location of Maximum: 198.00

Number of points: 296

m/z	Y	m/z	Y	m/z	Y	m/z	Y
75.00	8652   159.00	528   240.00	286   341.00	260			
77.00	46872   160.00	838   241.00	556   342.00	119			
78.00	3609   161.00	1394   242.00	934   346.00	550			
79.00	5015   162.00	301   243.00	118   347.00	81			
80.00	3152   163.00	144   244.00	12696   352.00	884			
81.00	4470   165.00	1411   245.00	1872   353.00	623			
82.00	917   166.00	527   246.00	2766   354.00	923			
83.00	847   167.00	6404   247.00	636   355.00	208			
84.00	121   168.00	2768   248.00	72   365.00	3819			
85.00	823   169.00	570   249.00	474   366.00	560			
86.00	1307   170.00	274   250.00	183   370.00	45			
87.00	632   171.00	185   251.00	128   371.00	187			
88.00	215   172.00	473   252.00	160   372.00	1601			
89.00	61   173.00	723   253.00	337   373.00	332			
91.00	1244   174.00	1399   255.00	64272   383.00	371			
92.00	462   175.00	2417   256.00	9829   384.00	41			
93.00	8176   176.00	635   258.00	4397   390.00	179			
94.00	689   177.00	1316   259.00	747   391.00	124			
95.00	149   178.00	154   260.00	168   392.00	147			
96.00	334   179.00	5181   261.00	175   401.00	104			
98.00	6325   180.00	3323   262.00	86   402.00	648			
99.00	4609   181.00	1457   263.00	63   403.00	810			
100.00	128   182.00	262   264.00	72   404.00	209			
101.00	2271   183.00	95   265.00	1859   405.00	41			
103.00	926   184.00	466   266.00	540   415.00	89			
104.00	1734   185.00	425   267.00	47   421.00	720			
105.00	1718   186.00	15571   268.00	195   422.00	56			
107.00	17640   187.00	4944   270.00	110   423.00	4693			
108.00	2776   188.00	454   271.00	183   424.00	1100			
110.00	36608   189.00	1379   273.00	1866   425.00	40			
111.00	5369   190.00	123   274.00	744   441.00	13514			
112.00	612   191.00	629   275.00	28400   442.00	82856			
113.00	259   192.00	1735   276.00	3842   443.00	16194			
114.00	232   193.00	1756   277.00	2642   444.00	1527			
115.00	68   194.00	437   278.00	405   445.00	75			

Data File: /chem/BNAMS8.i/625/03-13-01/13mar01.b/aa3861.d

Date : 13-MAR-2001 10:04

Client ID:

Instrument: BNAMS8.i

Sample Info: AADFT072

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25

Data File: aa3861.d

Spectrum: Average Spectrum: 7.044 to 7.057 min.

Location of Maximum: 198.00

Number of points: 296

m/z	Y	m/z	Y	m/z	Y	m/z	Y
117.00	18112	195.00	86	279.00	94	498.00	36
118.00	1271	196.00	3228	282.00	73		
119.00	134	198.00	139968	283.00	434		
120.00	313	199.00	9604	284.00	195		
121.00	66	200.00	736	285.00	458		

Data File: /chem/BNAMS8.i/625/03-13-01/13mar01.b/aa3861.d

Date : 13-MAR-2001 10:04

Client ID:

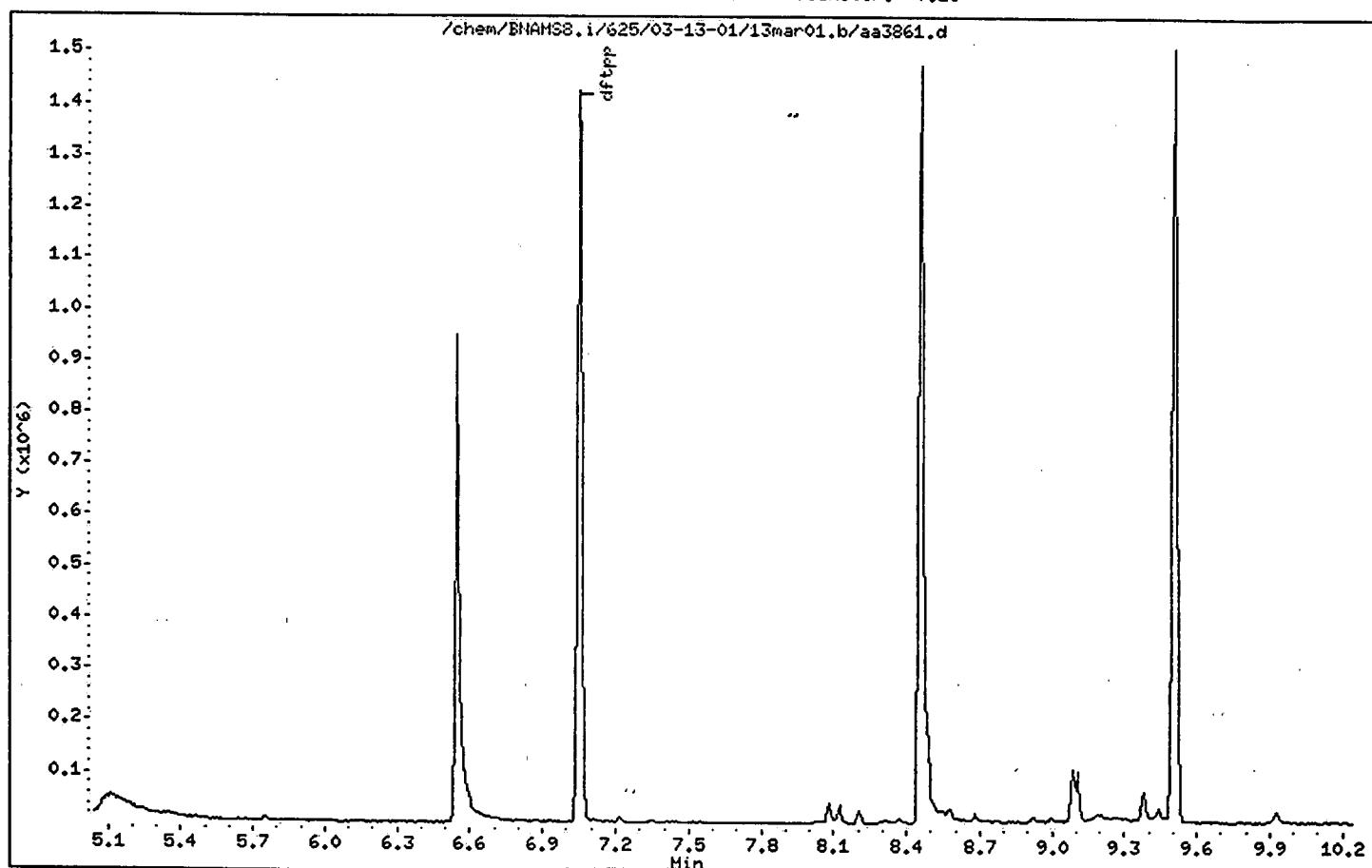
Instrument: BNAMS8.i

Sample Info: AADFT072

Operator: BNA2

Column phase: DB-5

Column diameter: 0.25



## SEMIVOLATILE METHOD BLANK SUMMARY

WB062A

Matrix: WATER

Date Analyzed: 03/12/01

Level: LOW

Time Analyzed: 2029

Instrument ID: BNAMS8

Lab File ID: AA3845

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT ID.	LAB SAMPLE NO	LAB FILE ID	DATE ANALYZED
01	TRIP_BLANK	260045	AA3847	03/12/01
02	MW11D	260048	AA3848	03/12/01
03	MW14S	260050	AA3849	03/12/01
04	MW25	260052	AA3850	03/13/01
05	MW21	260053	AA3851	03/13/01
06	MW11DD	260056	AA3853	03/13/01
07	FIELD_BLANK	260057	AA3854	03/13/01
08	WP-B7	260055	AA3873	03/13/01
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

Client ID: WB062A  
Site:

Lab Sample No: WB062A  
Lab Job No: I524

Date Sampled: \_\_\_\_\_  
Date Received: \_\_\_\_\_  
Date Extracted: 03/03/01  
Date Analyzed: 03/12/01  
GC Column: DB-5  
Instrument ID: BNAMS8.i  
Lab File ID: aa3845.d

Matrix: WATER  
Level: LOW  
Sample Volume: 1000 ml  
Extract Final Volume: 2.0 ml  
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS  
METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
N-Nitrosodimethylamine	ND	0.6
bis(2-Chloroethyl)ether	ND	0.6
1,3-Dichlorobenzene	ND	0.8
1,4-Dichlorobenzene	ND	0.8
1,2-Dichlorobenzene	ND	0.8
bis(2-chloroisopropyl)ether	ND	0.5
N-Nitroso-di-n-propylamine	ND	1.2
Hexachloroethane	ND	0.9
Nitrobenzene	ND	0.8
Isophorone	ND	0.2
bis(2-Chloroethoxy)methane	ND	0.6
1,2,4-Trichlorobenzene	ND	0.8
Naphthalene	ND	0.6
4-Chloroaniline	ND	1.3
Hexachlorobutadiene	ND	1.1
2-Methylnaphthalene	ND	0.8
Hexachlorocyclopentadiene	ND	1.7
2-Chloronaphthalene	ND	0.8
2-Nitroaniline	ND	0.5
Dimethylphthalate	ND	0.5
Acenaphthylene	ND	0.6
2,6-Dinitrotoluene	ND	0.4
3-Nitroaniline	ND	0.3
Acenaphthene	ND	0.6
Dibenzofuran	ND	0.7
2,4-Dinitrotoluene	ND	0.2
Diethylphthalate	ND	0.4
4-Chlorophenyl-phenylether	ND	0.8
Fluorene	ND	0.6
4-Nitroaniline	ND	0.6
N-Nitrosodiphenylamine	ND	0.5
4-Bromophenyl-phenylether	ND	1.9
Hexachlorobenzene	ND	1.1
Phenanthrene	ND	0.5

Client ID: WB062A  
Site:

Lab Sample No: WB062A  
Lab Job No: I524

Date Sampled: \_\_\_\_\_  
Date Received: \_\_\_\_\_  
Date Extracted: 03/03/01  
Date Analyzed: 03/12/01  
GC Column: DB-5  
Instrument ID: BNAMS8.i  
Lab File ID: aa3845.d

Matrix: WATER  
Level: LOW  
Sample Volume: 1000 ml  
Extract Final Volume: 2.0 ml  
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS  
METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection Limit</u> <u>Units: ug/l</u>
Anthracene	ND	0.4
Carbazole	ND	1.1
Di-n-butylphthalate	ND	0.4
Fluoranthene	ND	0.4
Pyrene	ND	0.4
Benzidine	ND	25
Butylbenzylphthalate	ND	0.4
3,3'-Dichlorobenzidine	ND	1.3
Benzo(a)anthracene	ND	0.4
Chrysene	ND	0.5
bis(2-Ethylhexyl)phthalate	0.6	0.4
Di-n-octylphthalate	ND	0.1
Benzo(b)fluoranthene	ND	0.3
Benzo(k)fluoranthene	ND	0.8
Benzo(a)pyrene	ND	0.2
Indeno(1,2,3-cd)pyrene	ND	0.1
Dibenz(a,h)anthracene	ND	0.6
Benzo(g,h,i)perylene	ND	0.4
Pyridine	ND	0.6
Aniline	ND	0.6
Benzyl Alcohol	ND	0.3
1,2-Diphenylhydrazine	ND	0.4
Diphenyl	ND	1.0
Acetophenone	ND	0.8
1,4-Dioxane	ND	0.6
Benzaldehyde	ND	0.9
Caprolactum	ND	0.5
Atrazine	ND	0.7

Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3845.d  
Report Date: 13-Mar-2001 09:11

STL Edison

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3845.d  
Lab Smp Id: WB062A Client Smp ID: BNA  
Inj Date : 12-MAR-2001 20:29  
Operator : BNAMS 1 Inst ID: BNAMS8.i  
Smp Info : WB062A;1000;2;1  
Misc Info : ;BNA;;;  
Comment :  
Method : /chem/BNAMS8.i/625/03-12-01/12mar01.b/bna625b.m  
Meth Date : 13-Mar-2001 08:17 zhang Quant Type: ISTD  
Cal Date : 12-MAR-2001 13:30 Cal File: aa3837.d  
Als bottle: 13 QC Sample: BLANK  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: allBNb.sub  
Target Version: 3.50  
Processing Host: hpdl 17

Concentration Formula: Amt \* DF \* 1000\*Vt/Vo \* CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vt	2.00000	Volume of final extract (mL)
Vo	1000.00000	Volume of sample extracted (mL)

Cpnd Variable

Local Compound Variable

Compounds	QUANT SIG	CONCENTRATIONS						
		MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/ml)	FINAL ( ug/L)
* 79 1,4-Dichlorobenzene-d4	152	12.893	12.893 (1.000)		337684	40.0000		
\$ 76 Nitrobenzene-d5 (SUR)	82	13.865	13.855 (0.919)		576759	42.8848	86	
* 80 Naphthalene-d8	136	15.083	15.083 (1.000)		1240128	40.0000		
\$ 77 2-Fluorobiphenyl (SUR)	172	16.885	16.885 (0.937)		972347	37.2661	74	
* 82 Acenaphthene-d10	164	18.021	18.021 (1.000)		790746	40.0000		
* 83 Phenanthrene-d10	188	20.498	20.498 (1.000)		1495284	40.0000		
\$ 78 Terphenyl-d14 (SUR)	244	23.128	23.118 (0.928)		1668139	48.3991	97	
63 bis(2-Ethylhexyl)phthalate	149	24.858	24.858 (0.998)		11395	0.31564	0.63	
* 81 Chrysene-d12	240	24.909	24.919 (1.000)		1655345	40.0000		
* 84 Perylene-d12	264	28.409	28.410 (1.000)		1539043	40.0000		

Data File: /chem/BNAHMS8.i/625/03-12-01/12mar01.b/aa3845.d

Date : 12-MAR-2001 20:29

Client ID: BNA

Sample Info: WB062A;1000;2;1

Purge Volume: 1000.0

Column phase: DB-5

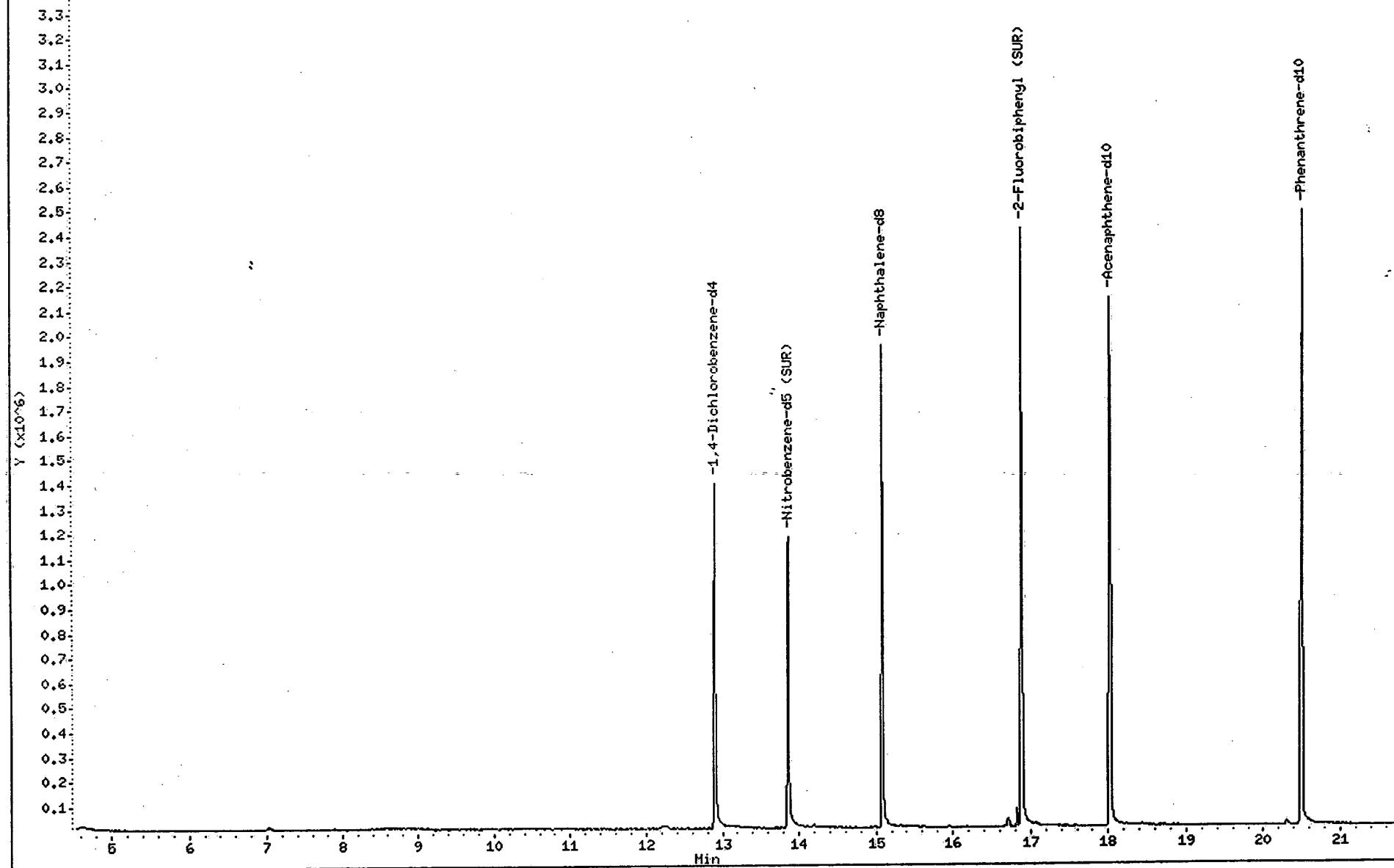
Instrument: BNAHMS8.i

Operator: BNAHMS 1

Column diameter: 0.53

89

/chem/BNAHMS8.i/625/03-12-01/12mar01.b/aa3845.d (Part 1 of 2)



Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3845.d

Date : 12-MAR-2001 20:29

Client ID: BNA

Sample Info: WB062A;1000;2;1

Purge Volume: 1000.0

Column phase: DB-5

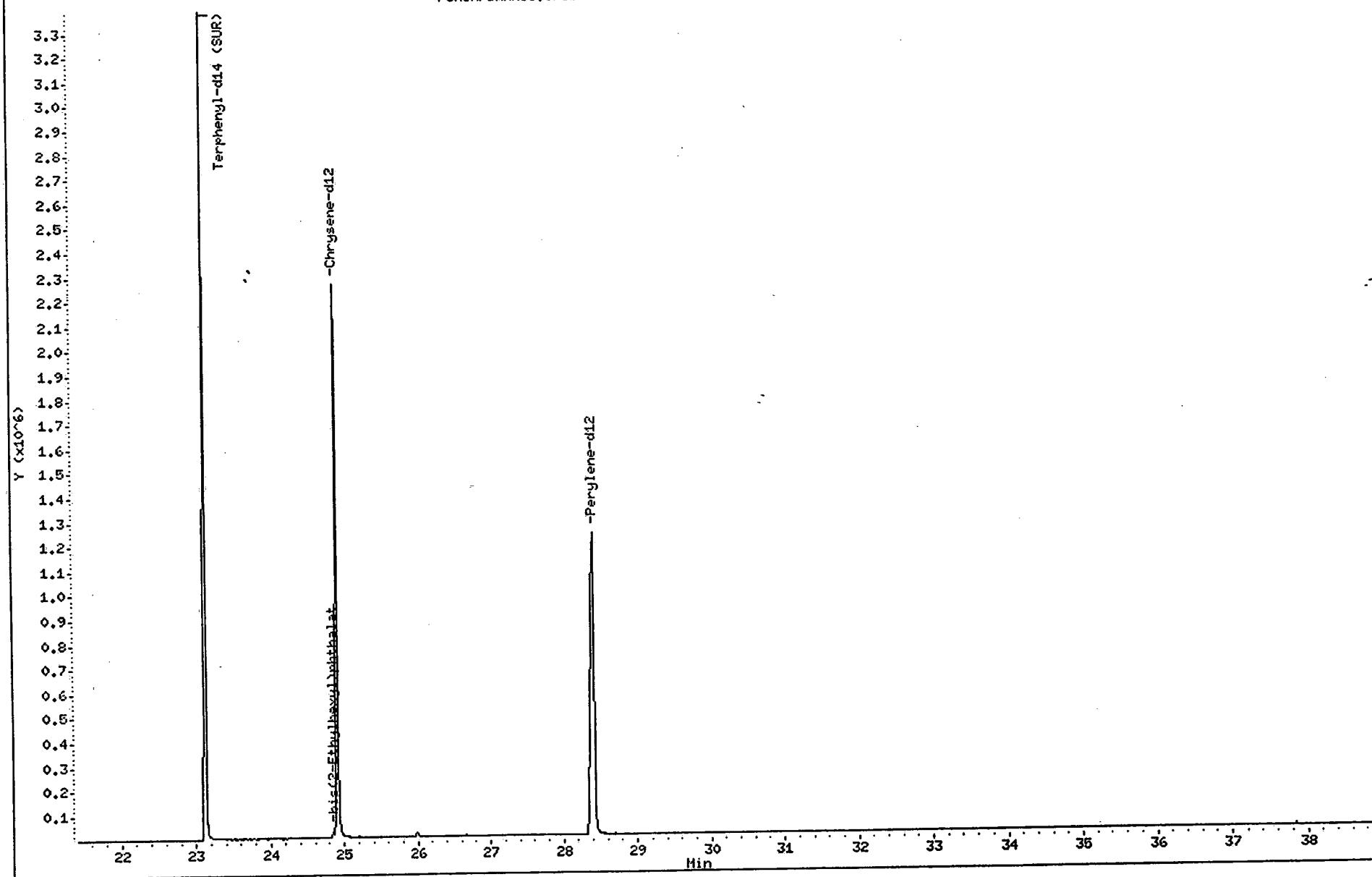
Instrument: BNAMS8.i

Operator: BNAMS 1

Column diameter: 0.53

90

/chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3845.d (Part 2 of 2)



Data File: /chem/BNAMS8.i/625/03-12-01/12mar01.b/aa3845.d

Date : 12-MAR-2001 20:29

Client ID: BNA

Instrument: BNAMS.i

Sample Info: WB062A;1000;2;1

Purge Volume: 1000.0

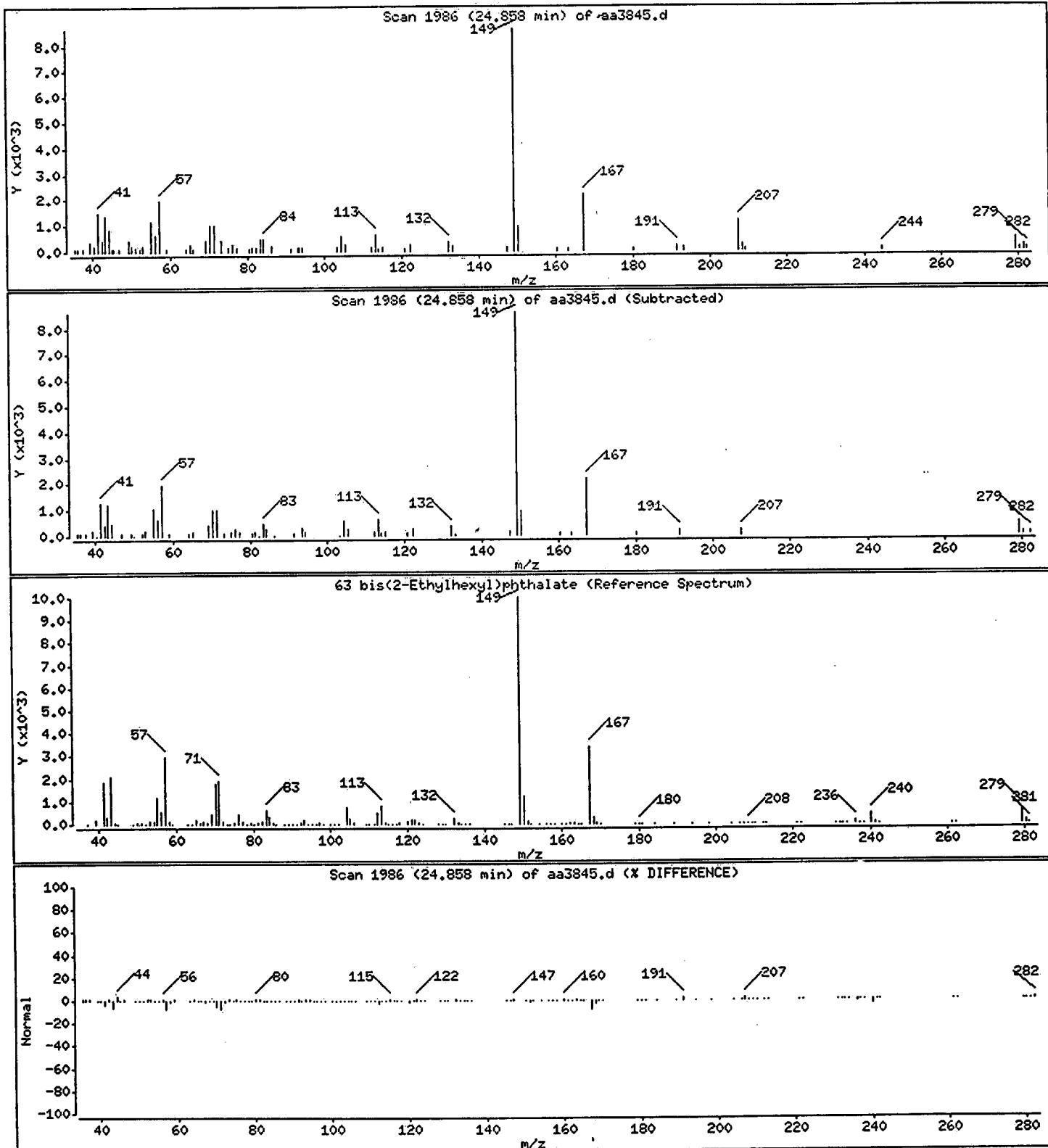
Operator: BNAMS 1

Column phase: DB-5

Column diameter: 0.53

63 bis(2-Ethylhexyl)phthalate

Concentration: 0.63 ug/L



SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA  
METHOD 625

Instrument ID: BNAMS8

Calibration Date(s): 03/12/01 03/12/01

Calibration Time(s): 1002 1330

LAB FILE ID:	RRF10: AA3835	RRF20: AA3837	RRF50: AA3833	RRF80: AA3836	RRF120: AA3834
COMPOUND	RRF10	RRF20	RRF50	RRF80	RRF120
Phenol	1.681	1.675	1.453	1.426	1.446
2-Chlorophenol	1.436	1.430	1.403	1.366	1.381
2-Methylphenol	1.246	1.258	1.139	1.103	1.110
4-Methylphenol	1.229	1.216	1.057	1.066	1.149
2-Nitrophenol	0.235	0.250	0.244	0.229	0.219
2,4-Dimethylphenol	0.368	0.358	0.327	0.319	0.314
2,4-Dichlorophenol	0.331	0.344	0.346	0.320	0.328
4-Chloro-3-methylphenol	0.432	0.430	0.428	0.415	0.366
2,4,6-Trichlorophenol	0.478	0.493	0.485	0.463	0.475
2,4,5-Trichlorophenol	0.492	0.537	0.528	0.497	0.500
2,4-Dinitrophenol	0.082	0.166	0.174	0.207	0.206
4-Nitrophenol	0.255	0.297	0.331	0.314	0.321
4,6-Dinitro-2-methylphenol	0.126	0.147	0.150	0.154	0.153
Pentachlorophenol	0.149	0.174	0.194	0.186	0.196
Benzoic Acid	0.071	0.102	0.126	0.162	0.155
N-Nitrosodimethylamine	0.552	0.568	0.636	0.755	0.778
bis(2-Chloroethyl)ether	1.219	1.339	1.229	1.200	1.184
1,3-Dichlorobenzene	1.582	1.558	1.416	1.349	1.411
1,4-Dichlorobenzene	1.543	1.543	1.440	1.368	1.441
1,2-Dichlorobenzene	1.531	1.521	1.377	1.284	1.333
bis(2-chloroisopropyl)ether	1.973	1.957	1.736	1.656	1.704
N-Nitroso-di-n-propylamine	0.975	0.889	0.813	0.914	0.957
Hexachloroethane	0.740	0.738	0.696	0.661	0.695
Nitrobenzene	0.531	0.532	0.486	0.493	0.514
Isophorone	0.686	0.695	0.669	0.674	0.689
bis(2-Chloroethoxy)methane	0.493	0.492	0.420	0.393	0.383
1,2,4-Trichlorobenzene	0.432	0.438	0.403	0.376	0.392
Naphthalene	1.167	1.113	0.965	0.955	1.006
4-Chloroaniline	0.418	0.453	0.407	0.373	0.382
Hexachlorobutadiene	0.311	0.298	0.287	0.272	0.275
2-Methylnaphthalene	0.770	0.738	0.654	0.660	0.684
Hexachlorocyclopentadiene	0.102	0.120	0.209	0.205	0.228
2-Chloronaphthalene	1.207	1.179	1.086	1.038	1.095
2-Nitroaniline	0.411	0.480	0.436	0.430	0.447
Dimethylphthalate	1.766	1.760	1.617	1.572	1.587
Acenaphthylene	1.748	1.696	1.538	1.459	1.574
2,6-Dinitrotoluene	0.406	0.437	0.393	0.382	0.380
3-Nitroaniline	0.357	0.386	0.362	0.348	0.353
Acenaphthene	1.200	1.141	1.021	1.028	1.110

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd)  
METHOD 625

Instrument ID: BNAMS8

Calibration Date(s): 03/12/01 03/12/01

Calibration Time(s): 1002 1330

LAB FILE ID:	RRF10: AA3835 RRF80: AA3836	RRF20: AA3837 RRF120: AA3834	RRF50: AA3833		
COMPOUND	RRF10	RRF20	RRF50	RRF80	RRF120
Dibenzofuran	1.816	1.721	1.528	1.449	1.568
2,4-Dinitrotoluene	0.578	0.594	0.540	0.503	0.507
Diethylphthalate	1.871	1.836	1.691	1.615	1.653
4-Chlorophenyl-phenylether	0.801	0.769	0.708	0.676	0.704
Fluorene	1.393	1.328	1.224	1.227	1.332
4-Nitroaniline	0.355	0.410	0.380	0.346	0.327
N-Nitrosodiphenylamine	0.518	0.490	0.458	0.447	0.437
4-Bromophenyl-phenylether	0.262	0.264	0.248	0.242	0.251
Hexachlorobenzene	0.328	0.327	0.318	0.295	0.313
Phenanthrene	1.084	1.015	0.942	0.923	0.973
Anthracene	1.110	1.008	0.934	0.900	0.973
Carbazole	1.016	0.973	0.846	0.809	0.849
Di-n-butylphthalate	1.596	1.517	1.462	1.402	1.511
Fluoranthene	1.238	1.203	1.145	1.097	1.127
Pyrene	1.122	1.065	0.981	0.964	1.064
Benzidine	0.638	0.356	0.313	0.234	0.163
Butylbenzylphthalate	0.668	0.667	0.594	0.590	0.612
3,3'-Dichlorobenzidine	0.408	0.408	0.388	0.363	0.317
Benzo(a)anthracene	1.114	1.113	1.045	1.051	1.120
Chrysene	1.105	1.054	0.987	0.973	1.061
bis(2-Ethylhexyl)phthalate	0.946	0.891	0.814	0.831	0.880
Di-n-octylphthalate	1.746	1.823	1.631	1.653	1.698
Benzo(b)fluoranthene	1.131	1.194	1.135	1.221	1.330
Benzo(k)fluoranthene	1.226	1.226	1.168	1.114	1.107
Benzo(a)pyrene	1.079	1.107	1.065	1.040	1.098
Indeno(1,2,3-cd)pyrene	1.032	1.092	1.127	1.212	1.272
Dibenz(a,h)anthracene	1.088	1.129	1.140	1.133	1.176
Benzo(g,h,i)perylene	1.081	1.115	1.159	1.134	1.170
Pyridine	0.915	0.994	1.116	1.277	1.318
Aniline	1.519	1.536	1.336	1.171	1.244
Benzyl Alcohol	0.888	0.932	0.865	0.834	0.807
1,2-Diphenylhydrazine	0.731	0.721	0.656	0.623	0.653
Diphenyl	1.517	1.430	1.275	1.260	1.348
Diphenyl Ether	0.845	0.813	0.743	0.684	0.755
Acetophenone	2.232	2.084	1.948	1.970	1.942
N,N-Dimethylaniline	1.770	1.661	1.441	1.474	1.557
1,4-Dioxane	0.503	0.537	0.584	0.613	0.629
2,3,7,8-TCDD (screen)			0.180		
Benzaldehyde	0.741	0.711	0.573	0.528	0.371

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd)  
METHOD 625

Instrument ID: BNAMS8

Calibration Date(s): 03/12/01 03/12/01

Calibration Time(s): 1002 1330

LAB FILE ID:	RRF10: AA3835 RRF80: AA3836	RRF20: AA3837 RRF120: AA3834	RRF50: AA3833		
COMPOUND	RRF10	RRF20	RRF50	RRF80	RRF120
Caprolactum	0.158	0.153	0.161	0.150	0.136
Atrazine	0.256	0.221	0.207	0.163	0.168
2-Fluorophenol (SUR)	1.016	1.067	1.200	1.240	1.247
Phenol-d5 (SUR)	1.601	1.660	1.583	1.524	1.486
2,4,6-Tribromophenol (SUR)	0.360	0.370	0.395	0.357	0.368
Nitrobenzene-d5 (SUR)	0.445	0.458	0.430	0.426	0.410
2-Fluorobiphenyl (SUR)	1.442	1.398	1.261	1.238	1.261
Terphenyl-d14 (SUR)	0.888	0.870	0.807	0.792	0.807

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd)  
METHOD 625

Instrument ID: BNAMS8

Calibration Date(s): 03/12/01 03/12/01

Calibration Time(s): 1002 1330

COMPOUND	CURVE	COEFFICIENT A1	%RSD OR R^2
Phenol	AVRG	1.53617881	8.4*
2-Chlorophenol	AVRG	1.40326054	2.2*
2-Methylphenol	AVRG	1.17118833	6.4*
4-Methylphenol	AVRG	1.14350464	7.0*
2-Nitrophenol	AVRG	0.23529025	5.1*
2,4-Dimethylphenol	AVRG	0.33732220	7.1*
2,4-Dichlorophenol	AVRG	0.33381764	3.4*
4-Chloro-3-methylphenol	AVRG	0.41415159	6.7*
2,4,6-Trichlorophenol	AVRG	0.47890922	2.4*
2,4,5-Trichlorophenol	AVRG	0.51079330	4.0*
2,4-Dinitrophenol	AVRG	0.16697664	30.5**
4-Nitrophenol	AVRG	0.30371346	9.8**
4,6-Dinitro-2-methylphenol	AVRG	0.14613645	8.0*
Pentachlorophenol	AVRG	0.17982450	10.8*
Benzoic Acid	AVRG	0.12329798	30.6*
N-Nitrosodimethylamine	AVRG	0.65790237	15.9**
bis(2-Chloroethyl)ether	AVRG	1.23417685	4.9*
1,3-Dichlorobenzene	AVRG	1.46322494	6.9*
1,4-Dichlorobenzene	AVRG	1.46698842	5.1*
1,2-Dichlorobenzene	AVRG	1.40931197	7.9*
bis(2-chloroisopropyl)ether	AVRG	1.80506237	8.2*
N-Nitroso-di-n-propylamine	AVRG	0.90952855	7.0**
Hexachloroethane	AVRG	0.70601208	4.7*
Nitrobenzene	AVRG	0.51100255	4.2*
Isophorone	AVRG	0.68280649	1.6*
bis(2-Chloroethoxy)methane	AVRG	0.43626121	12.2*
1,2,4-Trichlorobenzene	AVRG	0.40831068	6.4*
Naphthalene	AVRG	1.04132674	9.0*
4-Chloroaniline	AVRG	0.40670882	7.8*
Hexachlorobutadiene	AVRG	0.28871805	5.5*
2-Methylnaphthalene	AVRG	0.70129821	7.3*
Hexachlorocyclopentadiene	AVRG	0.17274636	33.2**
2-Chloronaphthalene	AVRG	1.12126561	6.2*
2-Nitroaniline	AVRG	0.44074455	5.8*
Dimethylphthalate	AVRG	1.66039098	5.7*
Acenaphthylene	AVRG	1.60289398	7.3*
2,6-Dinitrotoluene	AVRG	0.39948695	5.9*
3-Nitroaniline	AVRG	0.36113573	4.1*
Acenaphthene	AVRG	1.10011170	6.9*

\* Compound with required maximum % RSD value.

\*\* Compound with required minimum RRF value.

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd)  
METHOD 625

Instrument ID: BNAMS8

Calibration Date(s): 03/12/01 03/12/01

Calibration Time(s): 1002 1330

COMPOUND	CURVE	COEFFICIENT A1	%RSD OR R^2
Dibenzofuran	AVRG	1.61660443	9.2*
2,4-Dinitrotoluene	AVRG	0.54461042	7.5*
Diethylphthalate	AVRG	1.73326644	6.6*
4-Chlorophenyl-phenylether	AVRG	0.73170019	7.0*
Fluorene	AVRG	1.30082540	5.6*
4-Nitroaniline	AVRG	0.36369339	8.8*
N-Nitrosodiphenylamine	AVRG	0.47008200	7.1*
4-Bromophenyl-phenylether	AVRG	0.25313955	3.7*
Hexachlorobenzene	AVRG	0.31636175	4.2*
Phenanthrene	AVRG	0.98756275	6.5*
Anthracene	AVRG	0.98497906	8.2*
Carbazole	AVRG	0.89857229	10.0*
Di-n-butylphthalate	AVRG	1.49753884	4.8*
Fluoranthene	AVRG	1.16224340	4.9*
Pyrene	AVRG	1.03945835	6.3*
Benzidine	AVRG	0.34087583	53.4*
Butylbenzylphthalate	AVRG	0.62609130	6.2*
3,3'-Dichlorobenzidine	AVRG	0.37692646	10.1*
Benzo(a)anthracene	AVRG	1.08852017	3.4*
Chrysene	AVRG	1.03610051	5.3*
bis(2-Ethylhexyl)phthalate	AVRG	0.87234888	6.0*
Di-n-octylphthalate	AVRG	1.71011328	4.5*
Benzo(b)fluoranthene	AVRG	1.20218857	6.7*
Benzo(k)fluoranthene	AVRG	1.16833026	4.9*
Benzo(a)pyrene	AVRG	1.07768634	2.5*
Indeno(1,2,3-cd)pyrene	AVRG	1.14696276	8.3*
Dibenz(a,h)anthracene	AVRG	1.13327294	2.7*
Benzo(g,h,i)perylene	AVRG	1.13187530	3.1*
Pyridine	AVRG	1.12423889	15.5*
Aniline	AVRG	1.36134467	11.9*
Benzyl Alcohol	AVRG	0.86528654	5.6*
1,2-Diphenylhydrazine	AVRG	0.67695245	6.9*
Diphenyl	AVRG	1.36605245	7.9**
Diphenyl Ether	AVRG	0.76802003	8.2**
Acetophenone	AVRG	2.03520135	6.1**
N,N-Dimethylaniline	AVRG	1.58069487	8.6**
1,4-Dioxane	AVRG	0.57332193	9.2**
2,3,7,8-TCDD (screen)	AVRG	0.18045168	0.0*
Benzaldehyde	AVRG	0.58487614	25.6*

\* Compound with required maximum % RSD value.

\*\* Compound with required minimum RRF value.

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd)  
METHOD 625

Instrument ID: BNAMS8

Calibration Date(s): 03/12/01 03/12/01

Calibration Time(s): 1002 1330

COMPOUND	CURVE	COEFFICIENT A1	%RSD OR R^2
Caprolactum	AVRG	0.15150381	6.4*
Atrazine	AVRG	0.20300838	19.1*
2-Fluorophenol (SUR)	AVRG	1.15408859	9.2*
Phenol-d5 (SUR)	AVRG	1.57084080	4.3*
2,4,6-Tribromophenol (SUR)	AVRG	0.37020627	4.0*
Nitrobenzene-d5 (SUR)	AVRG	0.43379442	4.2*
2-Fluorobiphenyl (SUR)	AVRG	1.31986912	7.0*
Terphenyl-d14 (SUR)	AVRG	0.83284850	5.2*

\* Compound with required maximum % RSD value.

\*\* Compound with required minimum RRF value.

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA  
METHOD 625

Instrument ID: BNAMS8

Calibration Date(s): 03/13/01 03/13/01

Calibration Time(s): 1027 1450

LAB FILE ID:	RRF10: AA3864 RRF80: AA3866	RRF20: AA3867 RRF120: AA3865	RRF50: AA3862		
COMPOUND	RRF10	RRF20	RRF50	RRF80	RRF120
Phenol	1.672	1.668	1.517	1.351	1.353
2-Chlorophenol	1.436	1.434	1.437	1.369	1.345
2-Methylphenol	1.236	1.256	1.160	1.083	1.059
4-Methylphenol	1.206	1.200	1.084	1.042	1.053
2-Nitrophenol	0.238	0.255	0.244	0.231	0.223
2,4-Dimethylphenol	0.366	0.355	0.335	0.320	0.308
2,4-Dichlorophenol	0.311	0.339	0.342	0.313	0.309
4-Chloro-3-methylphenol	0.399	0.426	0.415	0.364	0.348
2,4,6-Trichlorophenol	0.476	0.492	0.493	0.456	0.458
2,4,5-Trichlorophenol	0.551	0.513	0.526	0.503	0.493
2,4-Dinitrophenol	0.135	0.199	0.234	0.224	0.235
4-Nitrophenol	0.239	0.289	0.292	0.304	0.310
4,6-Dinitro-2-methylphenol	0.159	0.167	0.170	0.164	0.165
Pentachlorophenol	0.152	0.171	0.189	0.186	0.192
Benzoic Acid	0.072	0.109	0.187	0.196	0.206
N-Nitrosodimethylamine	0.542	0.632	0.713	0.726	0.753
bis(2-Chloroethyl)ether	1.268	1.328	1.347	1.199	1.193
1,3-Dichlorobenzene	1.570	1.562	1.467	1.318	1.355
1,4-Dichlorobenzene	1.598	1.601	1.493	1.344	1.388
1,2-Dichlorobenzene	1.532	1.524	1.413	1.242	1.276
bis(2-chloroisopropyl)ether	2.011	1.986	1.790	1.643	1.614
N-Nitroso-di-n-propylamine	0.946	0.916	0.836	0.902	0.923
Hexachloroethane	0.730	0.751	0.707	0.646	0.660
Nitrobenzene	0.526	0.514	0.468	0.474	0.482
Isophorone	0.671	0.684	0.662	0.666	0.674
bis(2-Chloroethoxy)methane	0.495	0.488	0.419	0.394	0.379
1,2,4-Trichlorobenzene	0.439	0.439	0.392	0.366	0.376
Naphthalene	1.175	1.106	0.981	0.936	0.987
4-Chloroaniline	0.443	0.456	0.416	0.384	0.367
Hexachlorobutadiene	0.296	0.296	0.280	0.270	0.266
2-Methylnaphthalene	0.776	0.759	0.642	0.635	0.658
Hexachlorocyclopentadiene	0.137	0.134	0.252	0.217	0.243
2-Chloronaphthalene	1.221	1.186	1.092	1.000	1.048
2-Nitroaniline	0.429	0.439	0.420	0.413	0.427
Dimethylphthalate	1.758	1.735	1.632	1.551	1.544
Acenaphthylene	1.744	1.719	1.542	1.459	1.549
2,6-Dinitrotoluene	0.425	0.429	0.407	0.378	0.379
3-Nitroaniline	0.360	0.394	0.383	0.358	0.351
Acenaphthene	1.182	1.150	1.026	0.992	1.031

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd)  
METHOD 625

Instrument ID: BNAMS8

Calibration Date(s): 03/13/01 03/13/01

Calibration Time(s): 1027 1450

LAB FILE ID:	RRF10: AA3864 RRF80: AA3866	RRF20: AA3867 RRF120: AA3865	RRF50: AA3862		
COMPOUND	RRF10	RRF20	RRF50	RRF80	RRF120
Dibenzofuran	1.859	1.720	1.536	1.430	1.461
2,4-Dinitrotoluene	0.573	0.589	0.538	0.499	0.489
Diethylphthalate	1.815	1.818	1.658	1.620	1.626
4-Chlorophenyl-phenylether	0.766	0.755	0.691	0.657	0.649
Fluorene	1.423	1.307	1.196	1.192	1.224
4-Nitroaniline	0.383	0.421	0.376	0.351	0.338
N-Nitrosodiphenylamine	0.514	0.490	0.455	0.454	0.435
4-Bromophenyl-phenylether	0.260	0.265	0.246	0.240	0.245
Hexachlorobenzene	0.327	0.330	0.311	0.294	0.305
Phenanthrene	1.080	1.021	0.933	0.908	0.948
Anthracene	1.104	1.010	0.923	0.906	0.936
Carbazole	1.013	0.956	0.839	0.829	0.812
Di-n-butylphthalate	1.606	1.549	1.383	1.403	1.377
Fluoranthene	1.238	1.202	1.112	1.087	1.133
Pyrene	1.118	1.074	0.996	0.957	1.028
Benzidine	0.963	0.348	0.298	0.190	0.123
Butylbenzylphthalate	0.665	0.658	0.589	0.582	0.607
3,3'-Dichlorobenzidine	0.419	0.402	0.386	0.348	0.292
Benzo(a)anthracene	1.124	1.126	1.058	1.044	1.118
Chrysene	1.077	1.063	0.993	0.970	1.020
bis(2-Ethylhexyl)phthalate	0.933	0.894	0.794	0.827	0.856
Di-n-octylphthalate	1.720	1.781	1.597	1.590	1.598
Benzo(b)fluoranthene	1.146	1.160	1.126	1.156	1.256
Benzo(k)fluoranthene	1.227	1.255	1.176	1.085	1.111
Benzo(a)pyrene	1.084	1.109	1.064	1.032	1.087
Indeno(1,2,3-cd)pyrene	1.079	1.172	1.174	1.273	1.378
Dibenz(a,h)anthracene	1.068	1.203	1.182	1.186	1.236
Benzo(g,h,i)perylene	1.160	1.200	1.211	1.202	1.256
Pyridine	0.928	1.077	1.103	1.281	1.314
Aniline	1.485	1.553	1.395	1.155	1.165
Benzyl Alcohol	0.794	0.887	0.899	0.843	0.822
1,2-Diphenylhydrazine	0.740	0.710	0.654	0.611	0.623
Diphenyl	1.519	1.400	1.294	1.211	1.246
Diphenyl Ether	0.860	0.832	0.744	0.702	0.710
Acetophenone	2.216	2.088	1.910	1.900	1.894
N,N-Dimethylaniline	1.785	1.631	1.457	1.412	1.463
1,4-Dioxane	0.523	0.519	0.602	0.589	0.582
2,3,7,8-TCDD (screen)			0.168		
Benzaldehyde	0.714	0.841	0.626	0.520	0.316

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd)  
METHOD 625

Instrument ID: BNAMS8

Calibration Date(s): 03/13/01 03/13/01

Calibration Time(s): 1027 1450

LAB FILE ID:	RRF10: AA3864 RRF80: AA3866	RRF20: AA3867 RRF120: AA3865	RRF50: AA3862		
COMPOUND	RRF10	RRF20	RRF50	RRF80	RRF120
Caprolactum _____	0.149	0.156	0.155	0.146	0.141
Atrazine _____	0.258	0.221	0.200	0.150	0.160
2-Fluorophenol (SUR) _____	0.843	1.086	1.261	1.246	1.218
Phenol-d5 (SUR) _____	1.611	1.678	1.599	1.499	1.452
2,4,6-Tribromophenol (SUR) _____	0.340	0.370	0.358	0.347	0.341
Nitrobenzene-d5 (SUR) _____	0.433	0.439	0.425	0.415	0.398
2-Fluorobiphenyl (SUR) _____	1.474	1.383	1.279	1.197	1.209
Terphenyl-d14 (SUR) _____	0.901	0.859	0.819	0.786	0.815

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd)  
METHOD 625

Instrument ID: BNAMS8

Calibration Date(s): 03/13/01 03/13/01

Calibration Time(s): 1027 1450

COMPOUND	CURVE	COEFFICIENT A1	%RSD OR R^2
Phenol	AVRG	1.51245566	10.5*
2-Chlorophenol	AVRG	1.40429884	3.1*
2-Methylphenol	AVRG	1.15885665	7.6*
4-Methylphenol	AVRG	1.11680368	7.1*
2-Nitrophenol	AVRG	0.23828863	5.1*
2,4-Dimethylphenol	AVRG	0.33678424	7.1*
2,4-Dichlorophenol	AVRG	0.32295125	5.1*
4-Chloro-3-methylphenol	AVRG	0.39053752	8.6*
2,4,6-Trichlorophenol	AVRG	0.47499158	3.8*
2,4,5-Trichlorophenol	AVRG	0.51717322	4.3*
2,4-Dinitrophenol	AVRG	0.20549724	20.4**
4-Nitrophenol	AVRG	0.28682974	9.7**
4,6-Dinitro-2-methylphenol	AVRG	0.16487176	2.4*
Pentachlorophenol	AVRG	0.17807537	9.5*
Benzoic Acid	AVRG	0.15428674	38.8*
N-Nitrosodimethylamine	AVRG	0.67331339	12.8**
bis(2-Chloroethyl)ether	AVRG	1.26694335	5.6*
1,3-Dichlorobenzene	AVRG	1.45435800	7.9*
1,4-Dichlorobenzene	AVRG	1.48483698	8.0*
1,2-Dichlorobenzene	AVRG	1.39721593	9.7*
bis(2-chloroisopropyl)ether	AVRG	1.80893434	10.3*
N-Nitroso-di-n-propylamine	AVRG	0.90453276	4.6**
Hexachloroethane	AVRG	0.69885957	6.4*
Nitrobenzene	AVRG	0.49304586	5.2*
Isophorone	AVRG	0.67139970	1.2*
bis(2-Chloroethoxy)methane	AVRG	0.43512479	12.3*
1,2,4-Trichlorobenzene	AVRG	0.40246377	8.6*
Naphthalene	AVRG	1.03709572	9.6*
4-Chloroaniline	AVRG	0.41339744	9.1*
Hexachlorobutadiene	AVRG	0.28153797	5.0*
2-Methylnaphthalene	AVRG	0.69403495	9.7*
Hexachlorocyclopentadiene	AVRG	0.19673298	29.1**
2-Chloronaphthalene	AVRG	1.10938787	8.3*
2-Nitroaniline	AVRG	0.42597461	2.3*
Dimethylphthalate	AVRG	1.64367624	6.1*
Acenaphthylene	AVRG	1.60270521	7.7*
2,6-Dinitrotoluene	AVRG	0.40355497	6.1*
3-Nitroaniline	AVRG	0.36913396	5.0*
Acenaphthene	AVRG	1.07606734	7.8*

\* Compound with required maximum % RSD value.

\*\* Compound with required minimum RRF value.

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd)  
METHOD 625

Instrument ID: BNAMS8

Calibration Date(s) : 03/13/01 03/13/01

Calibration Time(s) : 1027 1450

COMPOUND	CURVE	COEFFICIENT A1	%RSD OR R^2
Dibenzofuran	AVRG	1.60132293	11.4*
2,4-Dinitrotoluene	AVRG	0.53753640	8.2*
Diethylphthalate	AVRG	1.70733974	5.9*
4-Chlorophenyl-phenylether	AVRG	0.70384208	7.7*
Fluorene	AVRG	1.26840911	7.7*
4-Nitroaniline	AVRG	0.37377518	8.5*
N-Nitrosodiphenylamine	AVRG	0.46973949	6.7*
4-Bromophenyl-phenylether	AVRG	0.25107873	4.2*
Hexachlorobenzene	AVRG	0.31374027	4.9*
Phenanthrone	AVRG	0.97805428	7.2*
Anthracene	AVRG	0.97592532	8.4*
Carbazole	AVRG	0.88982108	10.0*
Di-n-butylphthalate	AVRG	1.46357713	7.3*
Fluoranthene	AVRG	1.15437905	5.5*
Pyrene	AVRG	1.03473836	6.1*
Benzidine	AVRG	0.38449192	87.2*
Butylbenzylphthalate	AVRG	0.62021590	6.2*
3,3'-Dichlorobenzidine	AVRG	0.36941651	13.8*
Benzo(a)anthracene	AVRG	1.09425832	3.6*
Chrysene	AVRG	1.02451216	4.4*
bis(2-Ethylhexyl)phthalate	AVRG	0.86082469	6.3*
Di-n-octylphthalate	AVRG	1.65708728	5.3*
Benzo(b)fluoranthene	AVRG	1.16911222	4.3*
Benzo(k)fluoranthene	AVRG	1.17080171	6.2*
Benzo(a)pyrene	AVRG	1.07511404	2.7*
Indeno(1,2,3-cd)pyrene	AVRG	1.21512199	9.4*
Dibenz(a,h)anthracene	AVRG	1.17505768	5.4*
Benzo(g,h,i)perylene	AVRG	1.20583889	2.8*
Pyridine	AVRG	1.14059803	13.9*
Aniline	AVRG	1.35053062	13.5*
Benzyl Alcohol	AVRG	0.84880039	5.2*
1,2-Diphenylhydrazine	AVRG	0.66780581	8.4*
Diphenyl	AVRG	1.33403968	9.4**
Diphenyl Ether	AVRG	0.76959386	9.4**
Acetophenone	AVRG	2.00142615	7.2**
N,N-Dimethylaniline	AVRG	1.54981933	10.0**
1,4-Dioxane	AVRG	0.56312534	6.9**
2,3,7,8-TCDD (screen)	AVRG	0.16831629	0.0*
Benzaldehyde	AVRG	0.60361718	33.0*

\* Compound with required maximum % RSD value.

\*\* Compound with required minimum RRF value.

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd)  
METHOD 625

Instrument ID: BNAMS8

Calibration Date(s): 03/13/01 03/13/01

Calibration Time(s): 1027 1450

COMPOUND	CURVE	COEFFICIENT A1	%RSD OR R^2
Caprolactum	AVRG	0.14933052	4.2*
Atrazine	AVRG	0.19769396	22.6*
2-Fluorophenol (SUR)	AVRG	1.13063733	15.5*
Phenol-d5 (SUR)	AVRG	1.56777344	5.8*
2,4,6-Tribromophenol (SUR)	AVRG	0.35129376	3.7*
Nitrobenzene-d5 (SUR)	AVRG	0.42187506	3.8*
2-Fluorobiphenyl (SUR)	AVRG	1.30844427	9.0*
Terphenyl-d14 (SUR)	AVRG	0.83613891	5.3*

\* Compound with required maximum % RSD value.

\*\* Compound with required minimum RRF value.

SEMI-VOLATILE SURROGATE RECOVERY  
METHOD 625

Matrix: WATER      Level: LOW      Lab Job No: I524

	LAB SAMPLE NO.	S1 #	S2 #	S3 #	OTHER	TOT OUT
01	WB062A	86	74	97		0
02	260045	84	79	98		0
03	260048	73	72	88		0
04	260050	84	74	89		0
05	260052	81	82	92		0
06	260053	76	77	89		0
07	260056	87	73	90		0
08	260057	83	78	96		0
09	260055	OD	OD	OD		0
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QC LIMITS

S1	= Nitrobenzene-d5	(43-126)
S2	= 2-Fluorobiphenyl	(46-126)
S3	= Terphenyl-d14	(55-144)

# Column to be used to flag recovery values

\* Values outside of contract required QC limits

D System Monitoring Compound diluted out

SEMI-VOLATILE SPIKE RECOVERY SUMMARY  
METHOD 625

Matrix: WATER

Matrix Spike - Lab Sample No.: 261025

Level: LOW

MS Sample from Lab Job No: I673

QA Batch: 6157

Compound	MS % REC.	BS % REC.	LIMITS
bis(2-Chloroethyl)ether	100	100	12-158
1,3-Dichlorobenzene	72	64	0-172
1,4-Dichlorobenzene	76	69	20-124
1,2-Dichlorobenzene	77	73	32-129
bis(2-chloroisopropyl)ether	99	98	36-166
N-Nitroso-di-n-propylamine	88	92	0-230
Hexachloroethane	62	52	40-113
Nitrobenzene	88	86	35-180
Isophorone	84	84	21-196
bis(2-Chloroethoxy)methane	96	94	33-184
1,2,4-Trichlorobenzene	79	73	44-142
Naphthalene	85	82	21-133
Hexachlorobutadiene	64	51	24-116
2-Chloronaphthalene	87	85	60-118
Dimethylphthalate	64	61	0-112
Acenaphthylene	93	93	33-145
2,6-Dinitrotoluene	95	99	50-158
Acenaphthene	88	86	47-145
2,4-Dinitrotoluene	93	95	39-139
Diethylphthalate	81	81	0-114
4-Chlorophenyl-phenylether	87	87	25-158
Fluorene	86	86	59-121
4-Bromophenyl-phenylether	92	90	53-127
Hexachlorobenzene	94	88	0-152
Phenanthrene	91	89	54-120
Anthracene	91	90	27-133
Di-n-butylphthalate	91	87	1-118
Fluoranthene	93	89	26-137
Pyrene	97	93	52-115
Butylbenzylphthalate	93	89	0-152

\* Values outside of QC limits

SEMI-VOLATILE SPIKE RECOVERY SUMMARY  
METHOD 625

Matrix: WATER

Matrix Spike - Lab Sample No.: 261025

Level: LOW

MS Sample from Lab Job No: I673

QA Batch: 6157

Compound	MS % REC.	BS % REC.	LIMITS
3,3'-Dichlorobenzidine	78	84	0-262
Benzo(a)anthracene	96	90	33-143
Chrysene	95	88	17-168
bis(2-Ethylhexyl)phthalate	93	87	8-158
Di-n-octylphthalate	96	88	4-146
Benzo(b)fluoranthene	94	87	24-159
Benzo(k)fluoranthene	99	91	11-162
Benzo(a)pyrene	98	91	17-163
Indeno(1,2,3-cd)pyrene	95	88	0-171
Dibenz(a,h)anthracene	96	88	0-227
Benzo(g,h,i)perylene	97	90	0-219

\* Values outside of QC limits

Spike Recovery: 0 out of 82 outside limits

COMMENTS: \_\_\_\_\_

## SEMOVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): AA3833

Date Analyzed: 03/12/01

Instrument ID: BNAMS8

Time Analyzed: 1002

	IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(CRY) AREA #	RT #
12 HOUR STD	315601	12.89	1101322	15.09	1646535	24.92
UPPER LIMIT	631202	13.39	2202644	15.59	3293070	25.42
LOWER LIMIT	157800	12.39	550661	14.59	823268	24.42
LABORATORY SAMPLE NO.						
01 WB062A	337684	12.89	1240128	15.08	1655345	24.91
02 260045	353925	12.90	1298669	15.09	1721724	24.92
03 260048	336763	12.90	1252965	15.09	1693069	24.92
04 260050	354673	12.90	1315457	15.09	1841531	24.92
05 260052	347346	12.91	1298032	15.09	1735309	24.93
06 260053	358080	12.91	1337914	15.10	1868884	24.93
07 260056	368964	12.91	1370444	15.10	1879557	24.94
08 260057	369169	12.91	1353690	15.10	1789964	24.94
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IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (CRY) = Chrysene-d12

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = + 0.50 minutes of internal standard RT

RT LOWER LIMIT = - 0.50 minutes of internal standard RT

# Column used to flag internal standard area values with an asterisk.

\* Values outside of QC limits.

## SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard) : AA3833

Date Analyzed: 03/12/01

Instrument ID: BNAMS8

Time Analyzed: 1002

	IS4 (ANT) AREA #	RT #	IS5 (PHN) AREA #	RT #	IS6 (PRY) AREA #	RT #
12 HOUR STD	695080	18.02	1387342	20.50	1582100	28.41
UPPER LIMIT	1390160	18.52	2774684	21.00	3164200	28.91
LOWER LIMIT	347540	17.52	693671	20.00	791050	27.91
LABORATORY SAMPLE NO.						
01 WB062A	790746	18.02	1495284	20.50	1539043	28.41
02 260045	786792	18.02	1584233	20.50	1582864	28.41
03 260048	755231	18.03	1481606	20.50	1538258	28.42
04 260050	823999	18.03	1629594	20.51	1716164	28.43
05 260052	798227	18.04	1567697	20.51	1622542	28.43
06 260053	814092	18.04	1610238	20.51	1723198	28.44
07 260056	883400	18.04	1633812	20.52	1749654	28.45
08 260057	849699	18.04	1596041	20.52	1670801	28.45
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IS4 (ANT) = Acenaphthene-d10

IS5 (PHN) = Phenanthrene-d10

IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = + 0.50 minutes of internal standard RT

RT LOWER LIMIT = - 0.50 minutes of internal standard RT

# Column used to flag internal standard area values with an asterisk.

\* Values outside of QC limits.

## SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard) : AA3862

Date Analyzed: 03/13/01

Instrument ID: BNAMS8

Time Analyzed: 1027

	IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (CRY) AREA #	RT #
12 HOUR STD	394543	12.92	1400888	15.11	1858406	24.95
UPPER LIMIT	789086	13.42	2801776	15.61	3716812	25.45
LOWER LIMIT	197272	12.42	700444	14.61	929203	24.45
LABORATORY SAMPLE NO.						
01 260055	353811	12.91	1284450	15.10	1701362	24.93
02						
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IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (CRY) = Chrysene-d12

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = + 0.50 minutes of internal standard RT

RT LOWER LIMIT = - 0.50 minutes of internal standard RT

# Column used to flag internal standard area values with an asterisk.

\* Values outside of QC limits.

## SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): AA3862

Date Analyzed: 03/13/01

Instrument ID: BNAMS8

Time Analyzed: 1027

	IS4 (ANT) AREA #	RT #	IS5 (PHN) AREA #	RT #	IS6 (PRY) AREA #	RT #
12 HOUR STD	847289	18.04	1656497	20.52	1808140	28.46
UPPER LIMIT	1694578	18.54	3312994	21.02	3616280	28.96
LOWER LIMIT	423644	17.54	828248	20.02	904070	27.96
LABORATORY SAMPLE NO.						
01	260055	767193	18.04	1511391	20.52	1658882
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IS4 (ANT) = Acenaphthene-d10

IS5 (PHN) = Phenanthrene-d10

IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = + 0.50 minutes of internal standard RT

RT LOWER LIMIT = - 0.50 minutes of internal standard RT

# Column used to flag internal standard area values with an asterisk.

\* Values outside of QC limits.

Client ID: MW15S  
Site: L.E. Carpenter

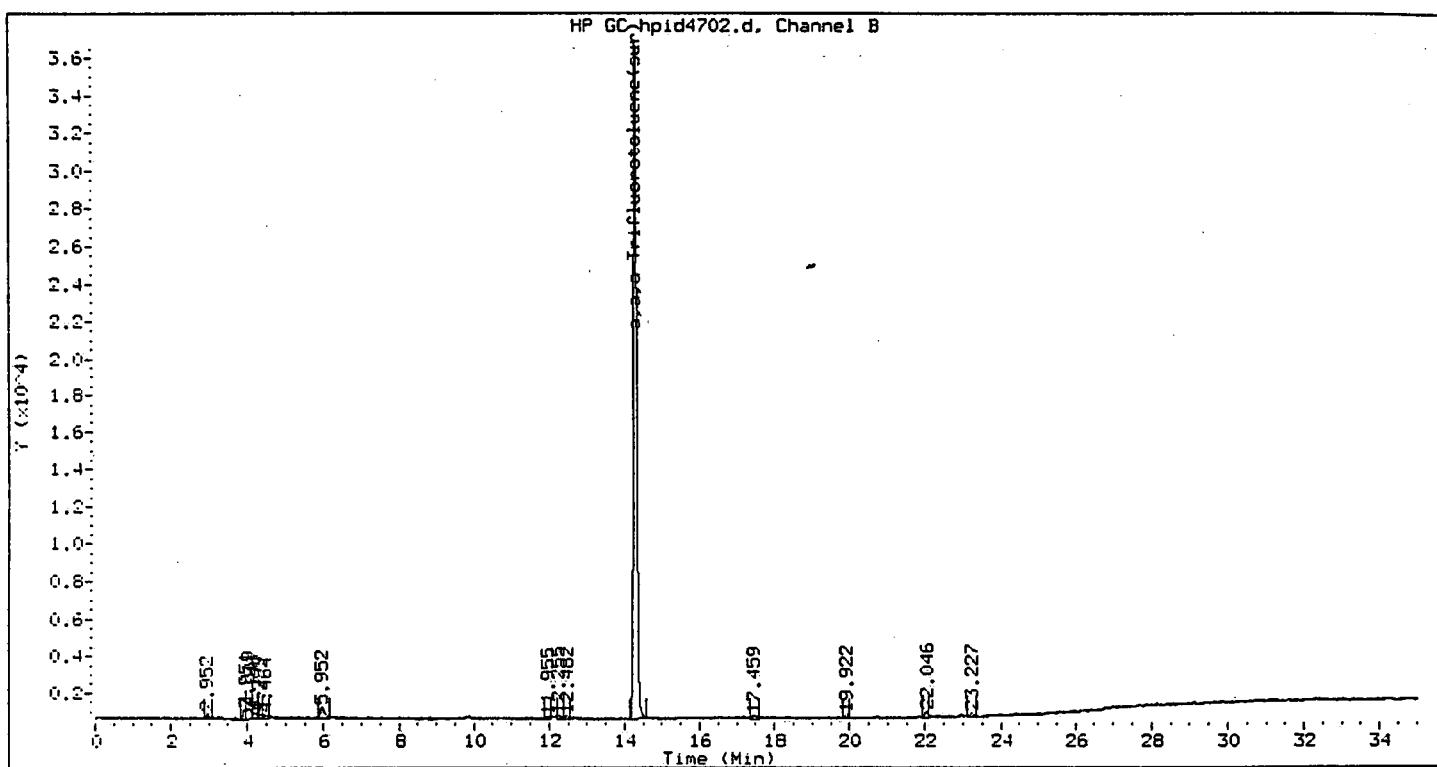
Lab Sample No: 260046  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Analyzed: 03/02/01  
GC Column: DB624  
Instrument ID: VOAGC2.i  
Lab File ID: hpid4702.d

Matrix: WATER  
Level: LOW  
Purgé Volume: 5.0 mL  
Final Volume: 0.0 mL  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID  
METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.25
Toluene	ND	0.27
Ethylbenzene	ND	0.27
Xylene (Total)	ND	0.25



Method : /chem/VOAGC2.i/602/01-23-01/02mar01.b/602\_00.m

Sample Info : 260046

Lab ID : 260046

Inj Date : 02-MAR-2001 19:26

Operator : SP

Cpnd Sublist: btex

Inst ID : VOAGC2.i

Dil Factor : 1

Sample Matrix : WATER

Sample Type: SAMPLE

CONCENTRATIONS

ON-COLUMN FINAL

Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
a,a,a-Trifluorotoluene(sur)	14.289	14.290	0.001	1079660	33.033	33.033

Client ID: MW15I  
Site: L.E. Carpenter

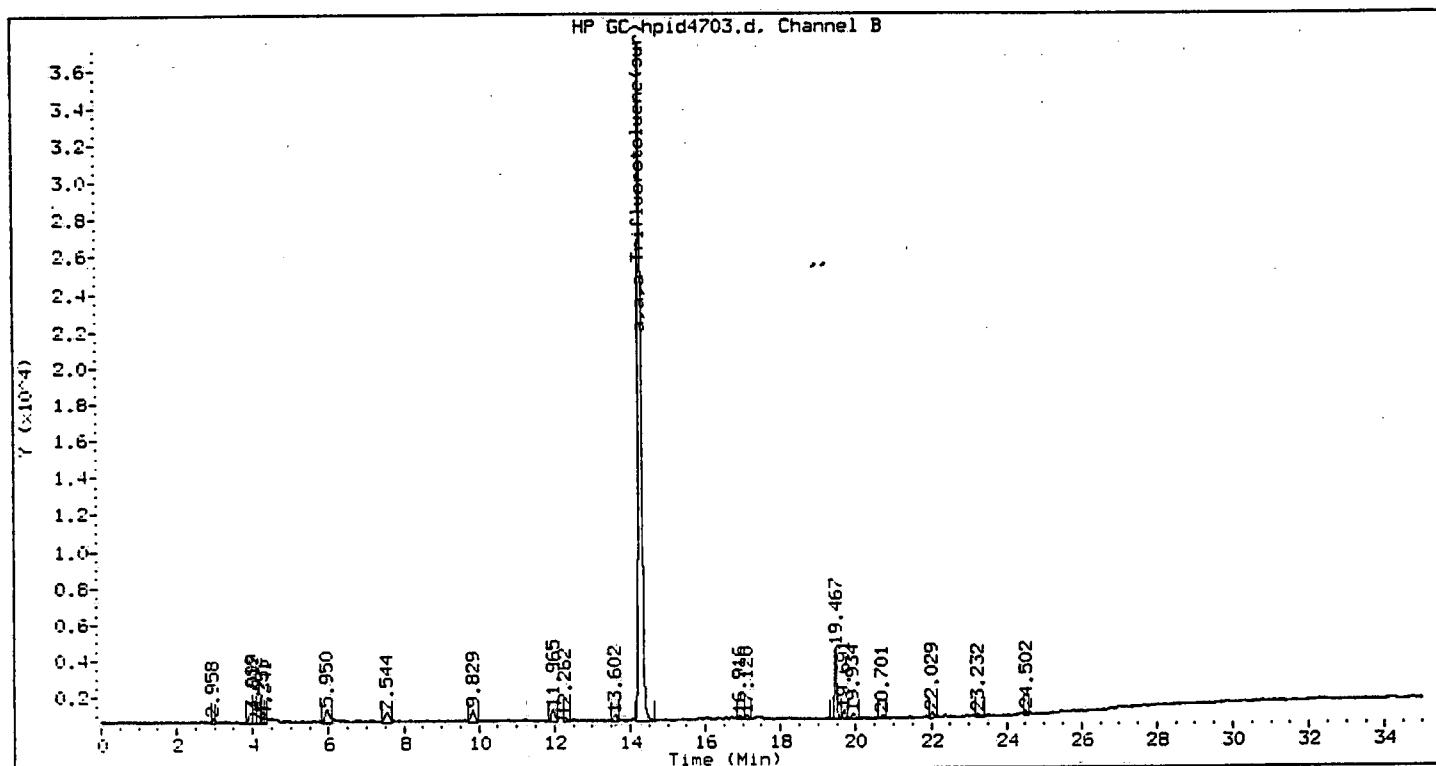
Lab Sample No: 260047  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Analyzed: 03/02/01  
GC Column: DB624  
Instrument ID: VOAGC2.i  
Lab File ID: hpid4703.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 mL  
Final Volume: 0.0 mL  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID  
METHOD 602

<u>Parameter</u>	<u>Analytical Result</u>	<u>Method Detection Limit</u>
	<u>Units: ug/l</u>	<u>Units: ug/l</u>
Benzene	ND	0.25
Toluene	ND	0.27
Ethylbenzene	ND	0.27
Xylene (Total)	ND	0.25



Method : /chem/VOAGC2.i/602/01-23-01/02mar01.b/602\_00.m

Sample Info : 260047

Lab ID : 260047

Inst ID : VOAGC2.i

Inj Date : 02-MAR-2001 20:07

Dil Factor : 1

Operator : SP

Sample Matrix : WATER

Cpnd Sublist: btex

Sample Type: SAMPLE

CONCENTRATIONS

ON-COLUMN FINAL

Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
a,a,a-Trifluorotoluene (sur)	14.287	14.290	0.003	1101379	33.697	33.697

Client ID: MW11D  
Site: L.E. Carpenter

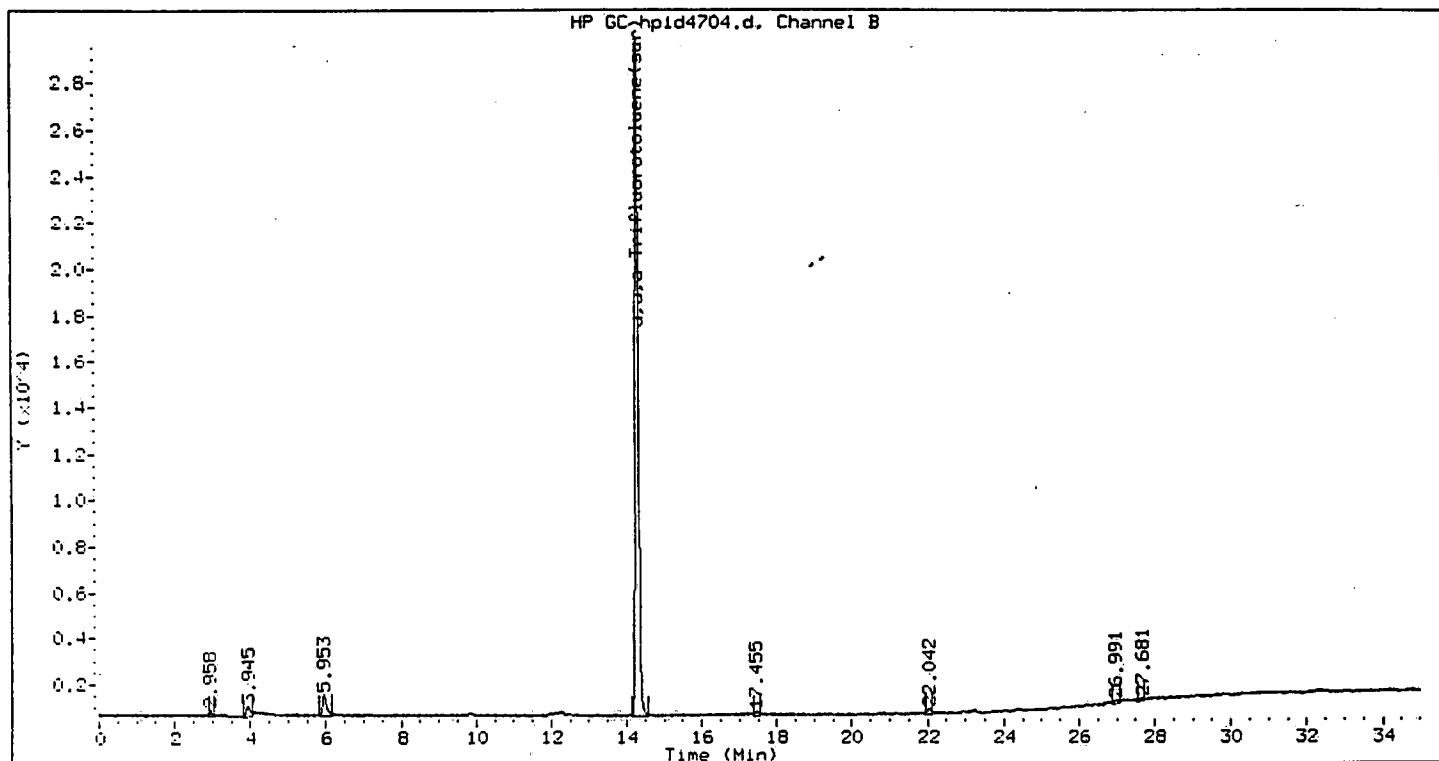
Lab Sample No: 260048  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Analyzed: 03/02/01  
GC Column: DB624  
Instrument ID: VOAGC2.i  
Lab File ID: hpid4704.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 mL  
Final Volume: 0.0 mL  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID  
METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.25
Toluene	ND	0.27
Ethylbenzene	ND	0.27
Xylene (Total)	ND	0.25



Method : /chem/VOAGC2.i/602/01-23-01/02mar01.b/602\_00.m

Sample Info : 260048

Lab ID : 260048

Inj Date : 02-MAR-2001 20:49

Operator : SP

Cpnd Sublist: btex

Inst ID : VOAGC2.i

Dil Factor : 1

Sample Matrix : WATER

Sample Type: SAMPLE

CONCENTRATIONS

ON-COLUMN FINAL

Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
a,a,a-Trifluorotoluene(sur)	14.288	14.290	0.002	876694	26.823	26.823

Client ID: MW14I  
Site: L.E. Carpenter

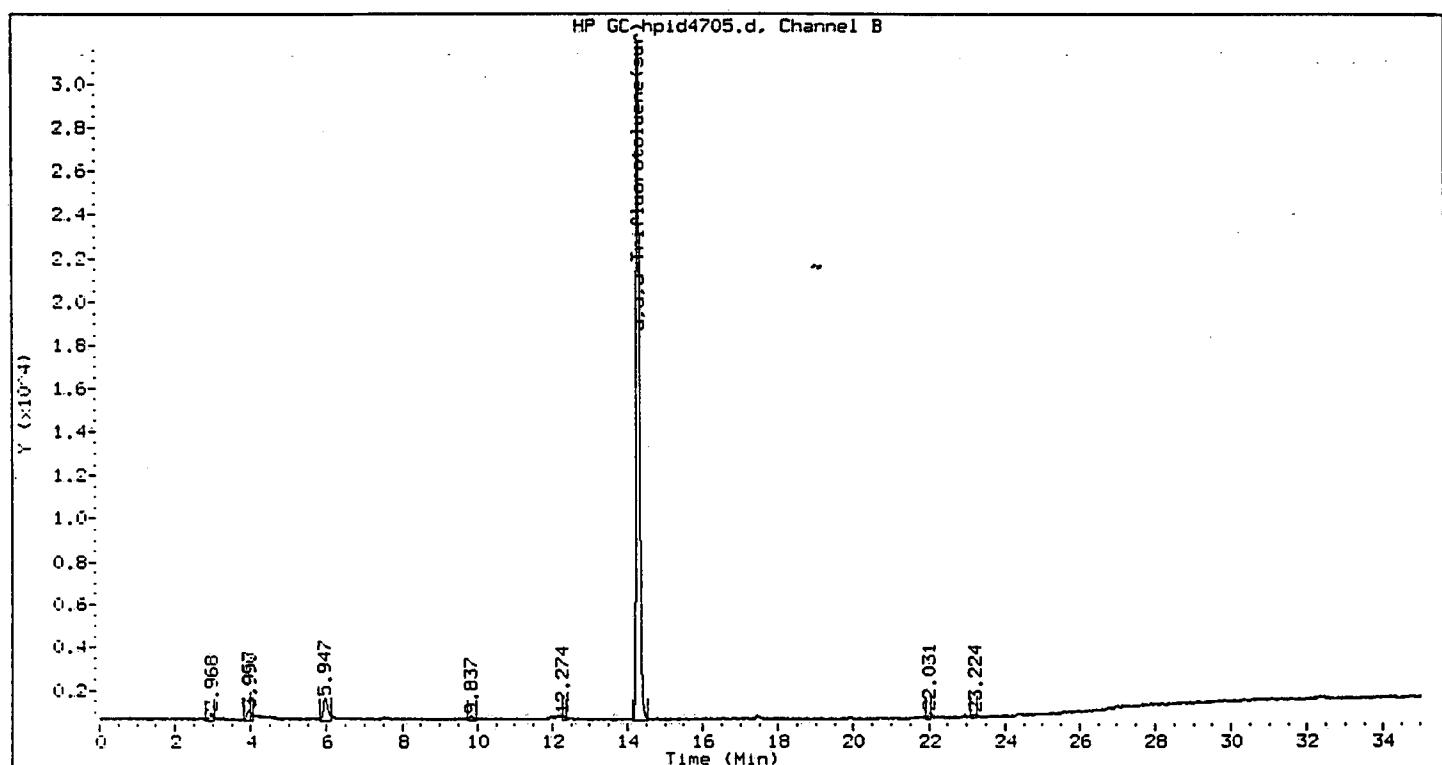
Lab Sample No: 260049  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Analyzed: 03/02/01  
GC Column: DB624  
Instrument ID: VOAGC2.i  
Lab File ID: hpid4705.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 mL  
Final Volume: 0.0 mL  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID  
METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.25
Toluene	ND	0.27
Ethylbenzene	ND	0.27
Xylene (Total)	ND	0.25



Method : /chem/VOAGC2.i/602/01-23-01/02mar01.b/602\_00.m

Sample Info : 260049

Lab ID : 260049

Inj Date : 02-MAR-2001 21:30

Operator : SP

Cpnd Sublist: btex

Inst ID : VOAGC2.i

Dil Factor : 1

Sample Matrix : WATER

Sample Type: SAMPLE

Compounds	CONCENTRATIONS					
	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
a,a,a-Trifluorotoluene(sur)	14.291	14.290	0.002	938517	28.714	28.714

Client ID: MW14S  
Site: L.E. Carpenter

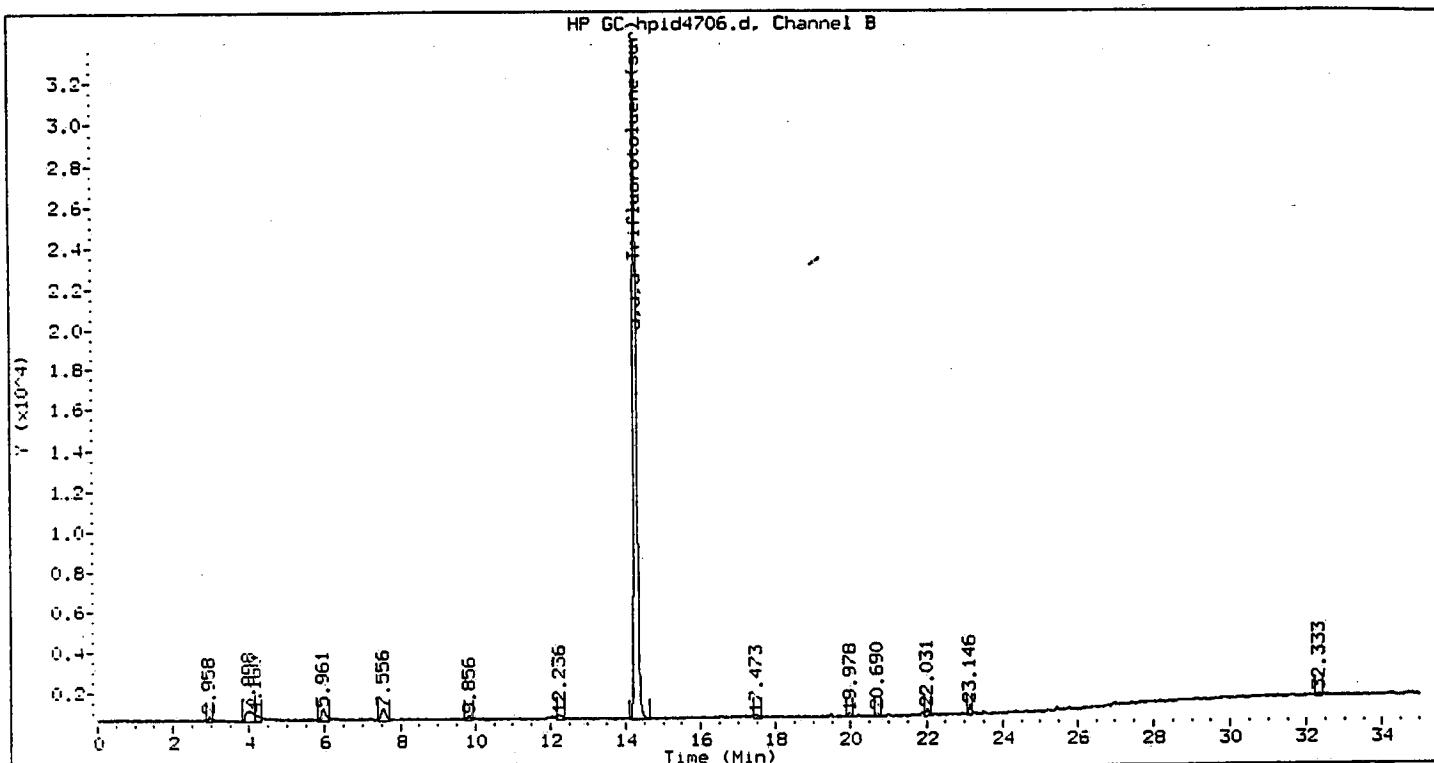
Lab Sample No: 260050  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Analyzed: 03/02/01  
GC Column: DB624  
Instrument ID: VOAGC2.i  
Lab File ID: hpid4706.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 mL  
Final Volume: 0.0 mL  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID  
METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.25
Toluene	ND	0.27
Ethylbenzene	ND	0.27
Xylene (Total)	ND	0.25



Method : /chem/VOAGC2.i/602/01-23-01/02mar01.b/602\_00.m

Sample Info : 260050

Lab ID : 260050

Inst ID : VOAGC2.i

Inj Date : 02-MAR-2001 22:12

Dil Factor : 1

Operator : SP

Sample Matrix : WATER

Cpnd Sublist: btex

Sample Type: SAMPLE

CONCENTRATIONS

ON-COLUMN FINAL

Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
a,a,a-Trifluorotoluene(sur)	14.290	14.290	0.000	1001838	30.652	30.652

Client ID: MW22R  
Site: L.E. Carpenter

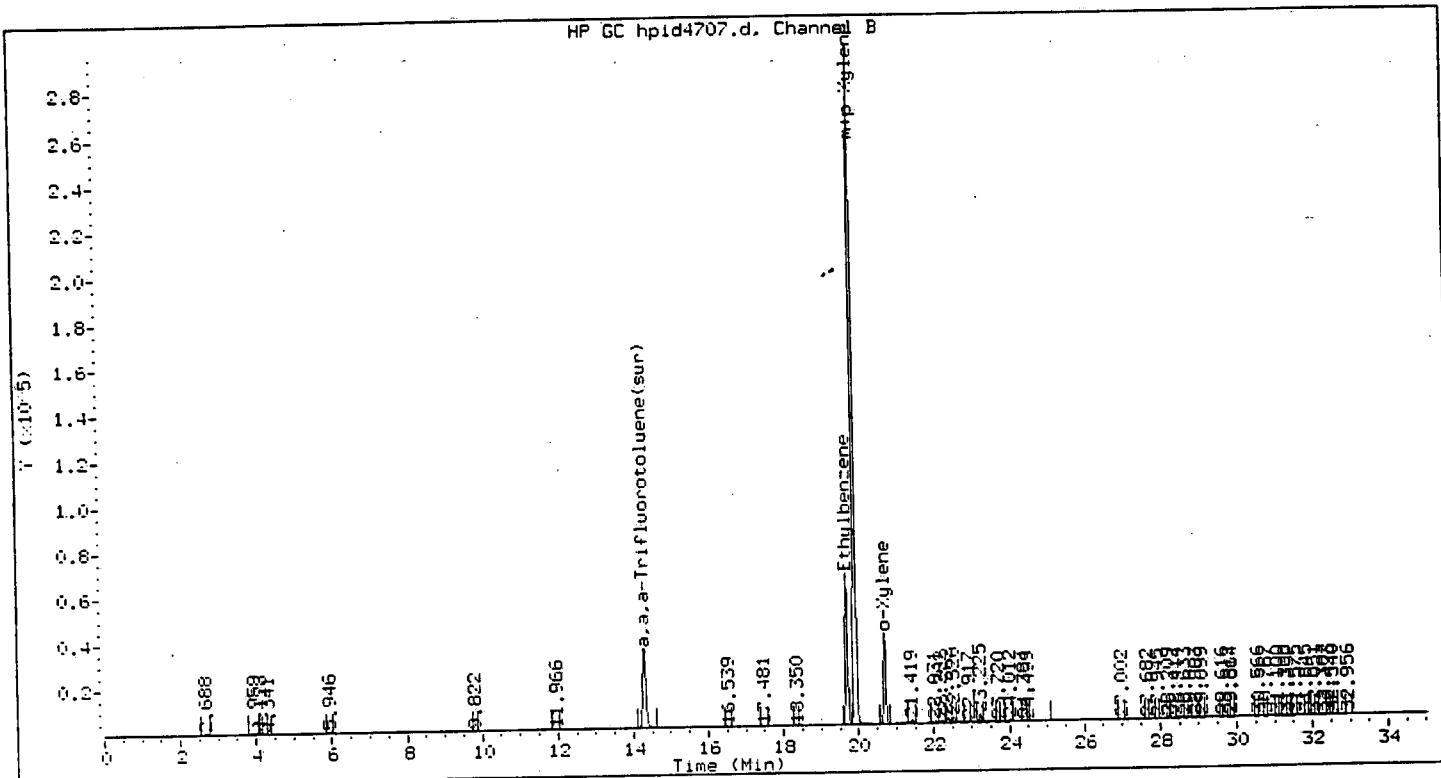
Lab Sample No: 260051  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Analyzed: 03/02/01  
GC Column: DB624  
Instrument ID: VOAGC2.i  
Lab File ID: hpid4707.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 mL  
Final Volume: 0.0 mL  
Dilution Factor: 200.0

VOLATILE ORGANICS - GC/PID  
METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection Limit</u> <u>Units: ug/l</u>
Benzene	ND	50
Toluene	ND	54
Ethylbenzene	1900	54
Xylene (Total)	9000	50



Method : /chem/VOAGC2.i/602/01-23-01/02mar01.b/602\_00.m

Sample Info : 260051;200

Lab ID : 260051

Inst ID : VOAGC2.i

Inj Date : 02-MAR-2001 22:53

Dil Factor : 200

Operator : SP

Sample Matrix : WATER

Cpnd Sublist: btex

Sample Type: SAMPLE

W/W

Compounds	CONCENTRATIONS					
	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
m+p-Xylene	19.919	19.927	0.008	6034920	38.554	7710.754
o-Xylene	20.704	20.710	0.006	778787	5.474	1094.807
Ethylbenzene	19.689	19.694	0.005	1337271	9.742	1948.315
Xylene (Total)	25.019	25.019	0.000	6813707	44.893	8978.509
a,a,a-Trifluorotoluene(sur)	14.288	14.290	0.002	1031479	31.559	31.559

Client ID: MW25  
Site: L.E. Carpenter

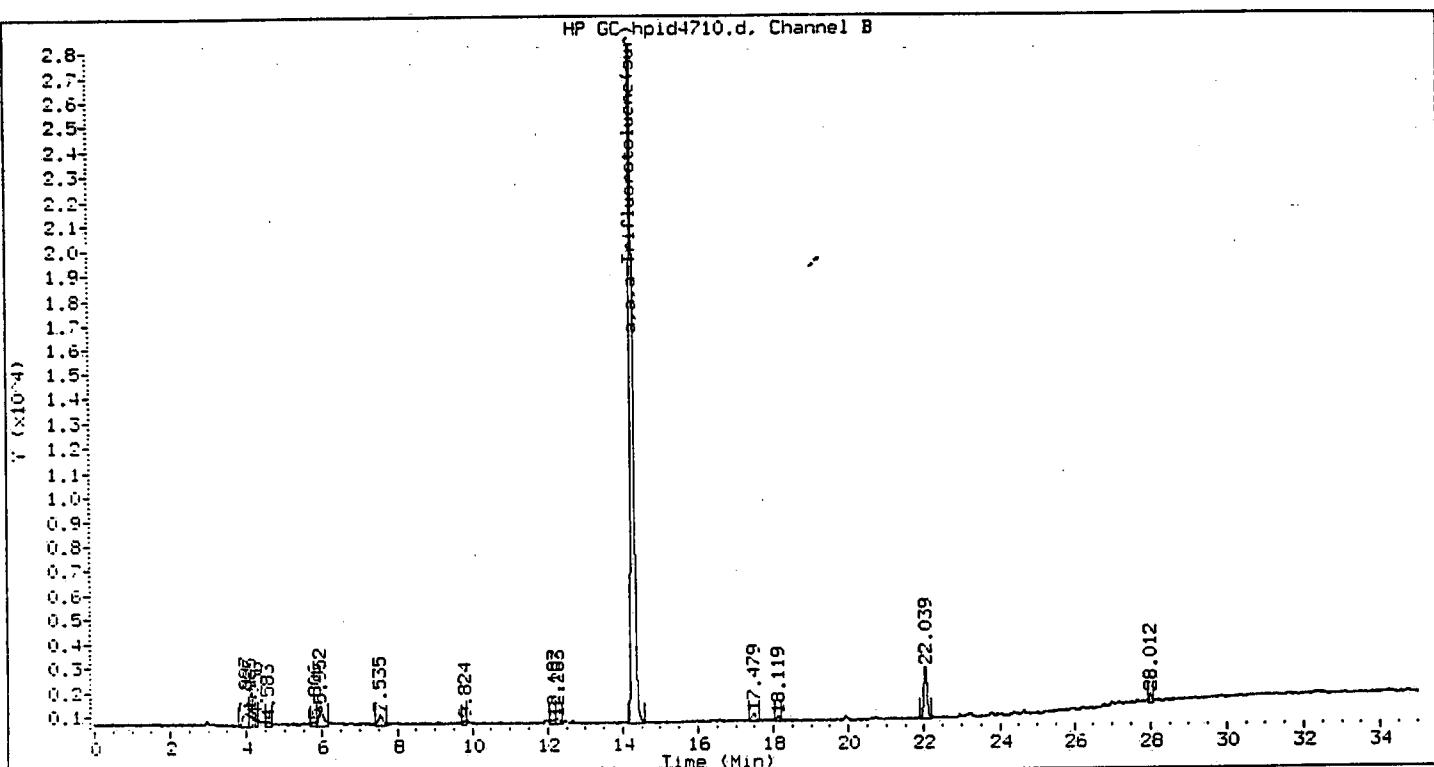
Lab Sample No: 260052  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Analyzed: 03/03/01  
GC Column: DB624  
Instrument ID: VOAGC2.i  
Lab File ID: hpid4710.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 mL  
Final Volume: 0.0 mL  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID  
METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.25
Toluene	ND	0.27
Ethylbenzene	ND	0.27
Xylene (Total)	ND	0.25



Method : /chem/VOAGC2.i/602/01-23-01/02mar01.b/602\_00.m

Sample Info : 260052

Lab ID : 260052

Inj Date : 03-MAR-2001 00:57

Operator : SP

Cpnd Sublist: btex

Inst ID : VOAGC2.i

Dil Factor : 1

Sample Matrix : WATER

Sample Type: SAMPLE

CONCENTRATIONS

ON-COLUMN FINAL

Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
a,a,a-Trifluorotoluene(sur)	14.292	14.290	0.002	826020	25.272	25.272

Client ID: MW21  
Site: L.E. Carpenter

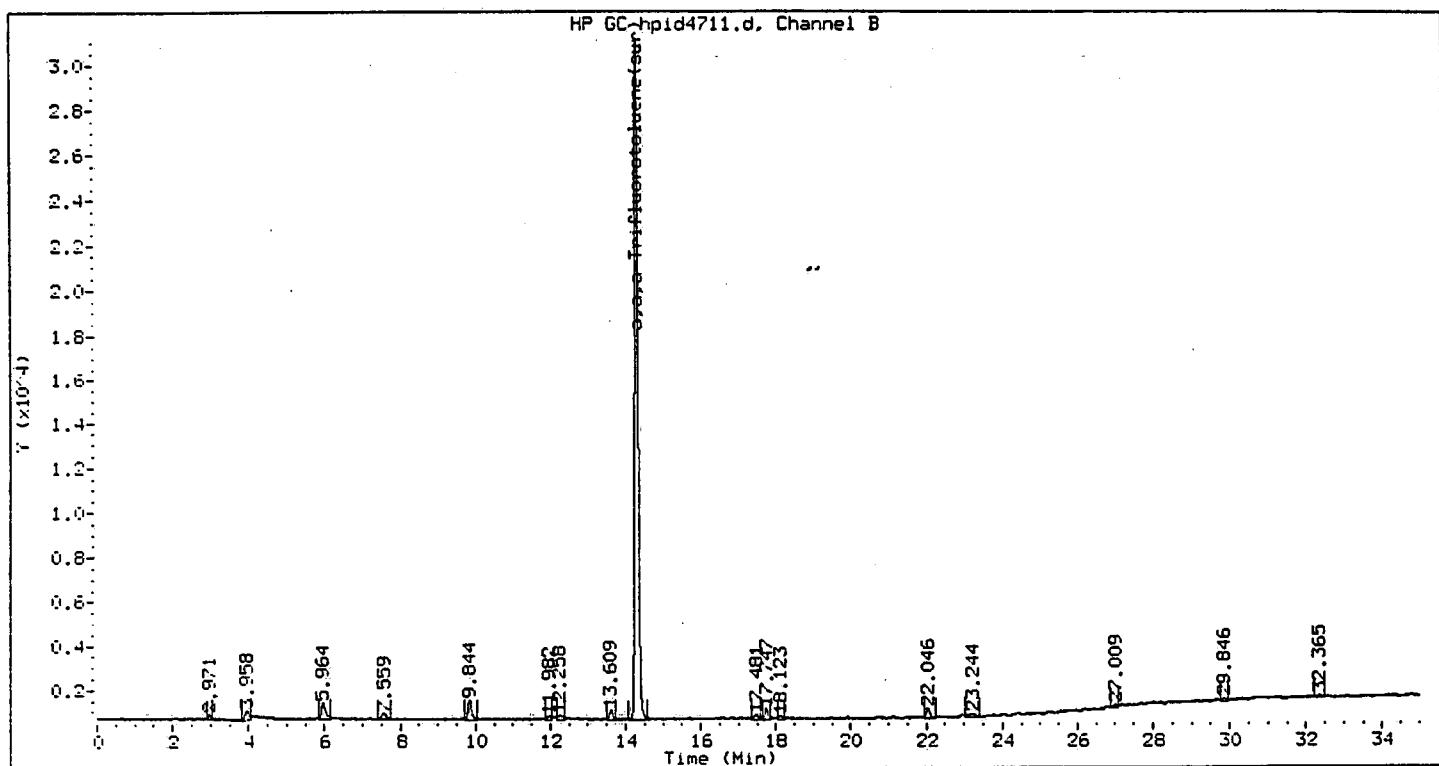
Lab Sample No: 260053  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Analyzed: 03/03/01  
GC Column: DB624  
Instrument ID: VOAGC2.i  
Lab File ID: hpid4711.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 mL  
Final Volume: 0.0 mL  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID  
METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.25
Toluene	ND	0.27
Ethylbenzene	ND	0.27
Xylene (Total)	ND	0.25



Method : /chem/VOAGC2.i/602/01-23-01/02mar01.b/602\_00.m

Sample Info : 260053

Lab ID : 260053

Inst ID : VOAGC2.i

Inj Date : 03-MAR-2001 01:38

Dil Factor : 1

Operator : SP

Sample Matrix : WATER

Cpnd Sublist: btex

Sample Type: SAMPLE

Compounds	CONCENTRATIONS					
	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	FINAL
a,a,a-Trifluorotoluene(sur)	14.301	14.290	0.011	915013	27.995	27.995

Client ID: MW4  
Site: L.E. Carpenter

Lab Sample No: 260054  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Analyzed: 03/03/01  
GC Column: DB624  
Instrument ID: VOAGC2.i  
Lab File ID: hpid4712.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 mL  
Final Volume: 0.0 mL  
Dilution Factor: 1.0

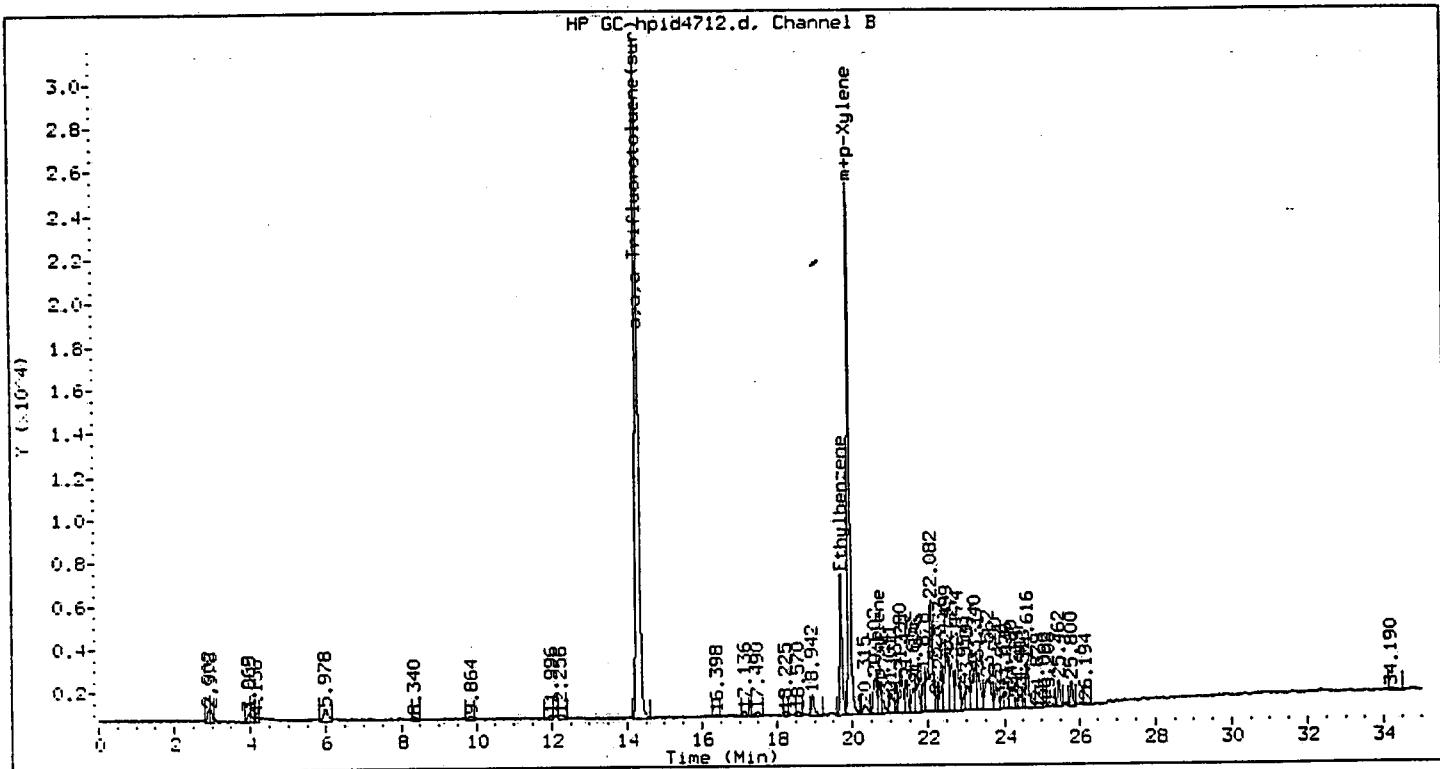
VOLATILE ORGANICS - GC/PID  
METHOD 602

Parameter

Analytical Result  
Units: ug/l

Method Detection  
Limit  
Units: ug/l

Benzene	ND	0.25
Toluene	ND	0.27
Ethylbenzene	1.0	0.27
Xylene (Total)	3.7	0.25



Method : /chem/VOAGC2.i/602/01-23-01/02mar01.b/602\_00.m

Sample Info : 260054

Lab ID : 260054

Inj Date : 03-MAR-2001 02:19

Operator : SP

Cpnd Sublist: btex

Inst ID : VOAGC2.i

Dil Factor : 1

Sample Matrix : WATER

Sample Type: SAMPLE

CONCENTRATIONS

ON-COLUMN FINAL

Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
m+p-Xylene	19.935	19.927	0.008	528300	3.375	3.375
o-Xylene	20.715	20.710	0.005	35979	0.253	0.253
Ethylbenzene	19.708	19.694	0.014	139991	1.020	1.020
Xylene (Total)	25.019	25.019	0.000	564279	3.718	3.718
a,a,a-Trifluorotoluene(sur)	14.309	14.290	0.019	928129	28.396	28.396

Client ID: WP-B7  
Site: L.E. Carpenter

Lab Sample No: 260055  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Analyzed: 03/03/01  
GC Column: DB624  
Instrument ID: VOAGC2.i  
Lab File ID: hpid4713.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 mL  
Final Volume: 0.0 mL  
Dilution Factor: 2.0

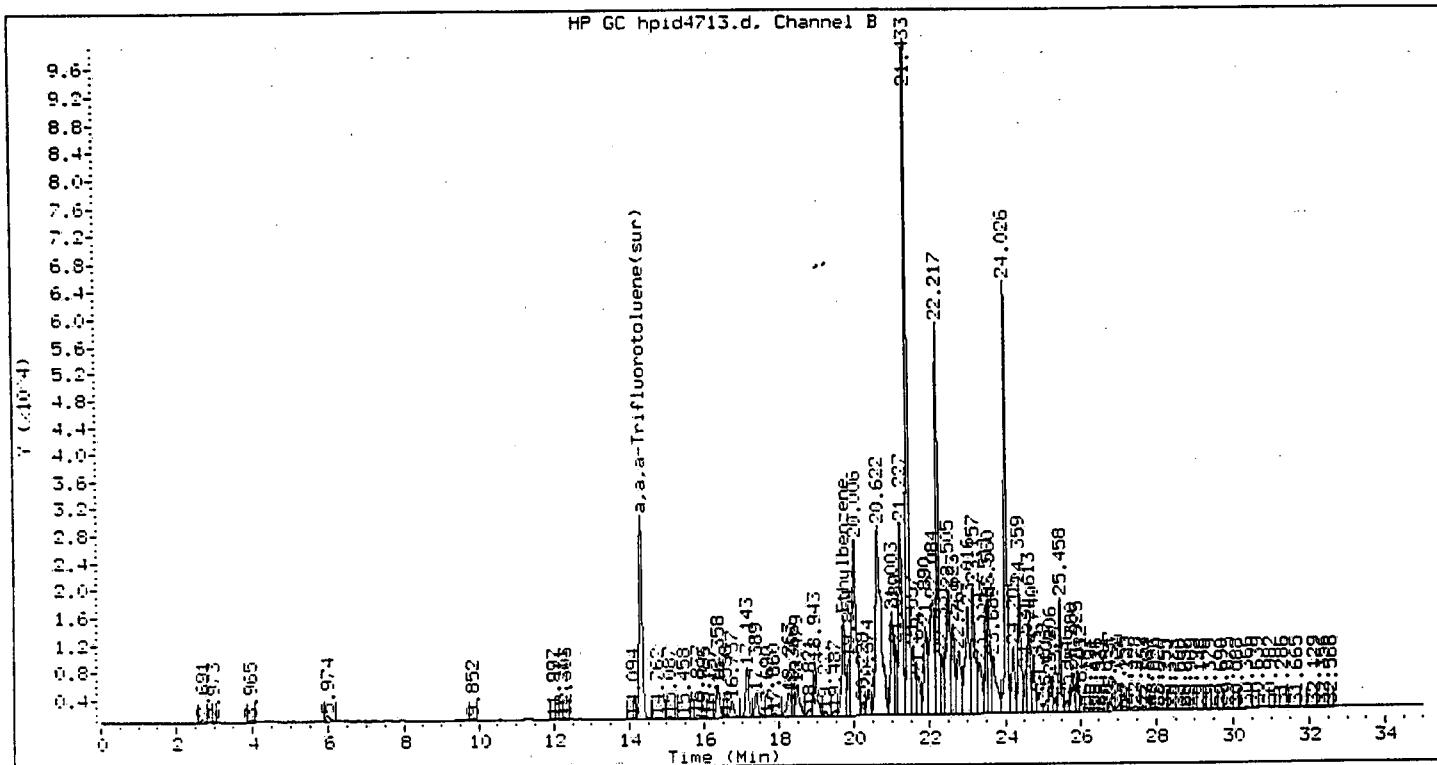
VOLATILE ORGANICS - GC/PID  
METHOD 602

Parameter

Analytical Result  
Units: ug/l

Method Detection  
Limit  
Units: ug/l

Benzene	ND	0.50
Toluene	ND	0.54
Ethylbenzene	6.2	0.54
Xylene (Total)	ND	0.50



Method : /chem/VOAGC2.i/602/01-23-01/02mar01.b/602\_00.m

Sample Info : 260055;;2

Lab ID : 260055

Inst ID : VOAGC2.i

Inj Date : 03-MAR-2001 03:00

Dil Factor : 2

Operator : SP

Sample Matrix : WATER

Cpnd Sublist: btex

Sample Type: SAMPLE

Compounds	CONCENTRATIONS					
	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	ON-COLUMN FINAL (ug/L)
Ethylbenzene	19.717	19.694	0.023	426968	3.110	6.221
a,a,a-Trifluorotoluene(sur)	14.309	14.290	0.019	886878	27.134	27.134

Client ID: Field\_Blank  
Site: L.E. Carpenter

Lab Sample No: 260057  
Lab Job No: I524

Date Sampled: 02/27/01  
Date Received: 02/27/01  
Date Analyzed: 03/03/01  
GC Column: DB624  
Instrument ID: VOAGC2.i  
Lab File ID: hpid4714.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 mL  
Final Volume: 0.0 mL  
Dilution Factor: 1.0

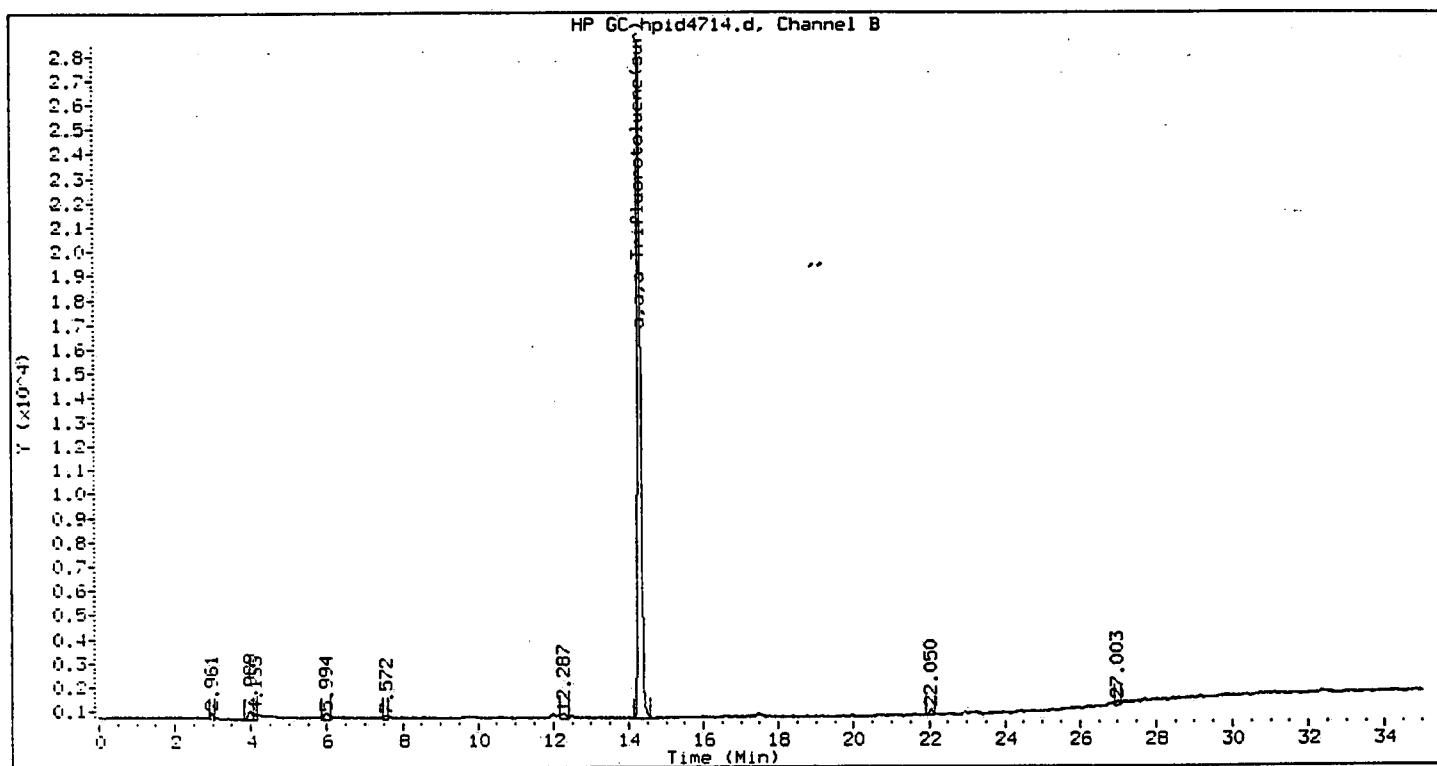
VOLATILE ORGANICS - GC/PID  
METHOD 602

Parameter

Analytical Result  
Units: ug/l

Method Detection  
Limit  
Units: ug/l

Benzene	ND	0.25
Toluene	ND	0.27
Ethylbenzene	ND	0.27
Xylene (Total)	ND	0.25



Method : /chem/VOAGC2.i/602/01-23-01/02mar01.b/602\_00.m

Sample Info : 260057

Lab ID : 260057

Inj Date : 03-MAR-2001 03:40

Operator : SP

Cpnd Sublist: btex

Inst ID : VOAGC2.i

Dil Factor : 1

Sample Matrix : WATER

Sample Type: SAMPLE

CONCENTRATIONS

ON-COLUMN FINAL

Compounds	RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/L)
a,a,a-Trifluorotoluene(sur)	14.313	14.290	0.023	835079	25.550

## VOLATILE METHOD BLANK SUMMARY

HG061

Date Analyzed: 03/02/01

Instrument ID: VOAGC2

Time Analyzed: 1518

Lab File ID: HPID4696

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT ID.	LAB SAMPLE NO	LAB FILE ID	TIME ANALYZED
01	MW15S	260046	HPID4702	1926
02	MW15I	260047	HPID4703	2007
03	MW11D	260048	HPID4704	2049
04	MW14I	260049	HPID4705	2130
05	MW14S	260050	HPID4706	2212
06	MW22R	260051	HPID4707	2253
07	MW22RMS	260051MS	HPID4708	2335
08	MW22RMSD	260051MSD	HPID4709	0016
09	MW25	260052	HPID4710	0057
10	MW21	260053	HPID4711	0138
11	MW4	260054	HPID4712	0219
12	WP-B7	260055	HPID4713	0300
13	FIELD_BLANK	260057	HPID4714	0340
14				
15				
16				
17				
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21				
22				
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24				
25				
26				
27				
28				
29				
30				

## COMMENTS:

Client ID: HG061  
Site:

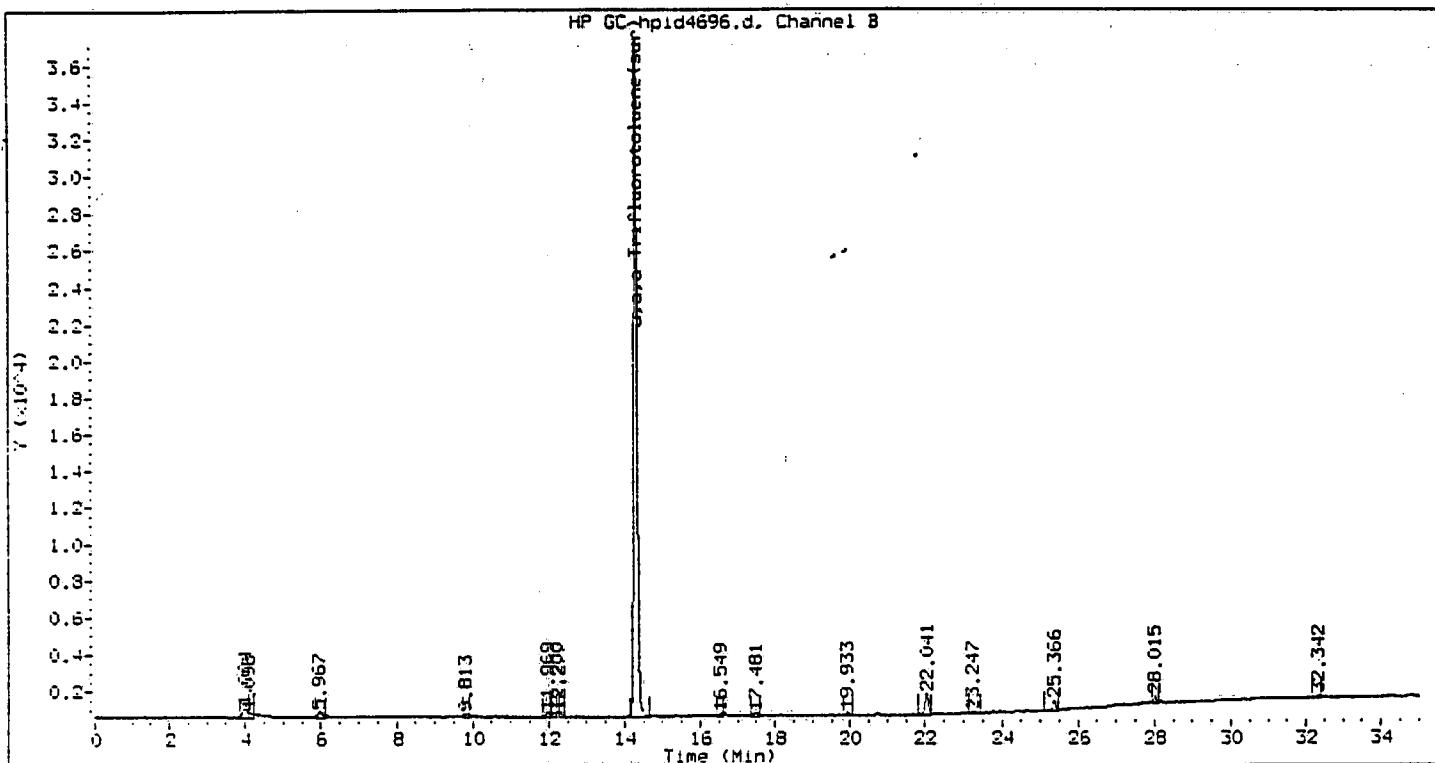
Lab Sample No: HG061  
Lab Job No: I524

Date Sampled: \_\_\_\_\_  
Date Received: \_\_\_\_\_  
Date Analyzed: 03/02/01  
GC Column: DB624  
Instrument ID: VOAGC2.i  
Lab File ID: hpid4696.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 mL  
Final Volume: 0.0 mL  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID  
METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
TBA	ND	20
MTBE	ND	0.24
DIPE	ND	0.28
Benzene	ND	0.25
Toluene	ND	0.27
Chlorobenzene	ND	0.25
Ethylbenzene	ND	0.27
Xylene (Total)	ND	0.25
1,3-Dichlorobenzene	ND	0.25
1,4-Dichlorobenzene	ND	0.26
1,2-Dichlorobenzene	ND	0.25
Naphthalene	ND	0.16



Method : /chem/VOAGC2.i/602/01-23-01/02mar01.b/602\_00.m

Sample Info : HG061

Lab ID : HG061

Inj Date : 02-MAR-2001 15:18

Operator : SP

Cpnd Sublist: all

Inst ID : VOAGC2.i

Dil Factor : 1

Sample Matrix : WATER

Sample Type: BLANK

CONCENTRATIONS

ON-COLUMN FINAL

Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
a,a,a-Trifluorotoluene(sur)	14.294	14.290	0.004	1097015	33.564	33.564

## VOLATILE ORGANICS INITIAL CALIBRATION DATA

Instrument ID: VOAGC2

Calibration Date(s): 01/23/01 01/23/01

Calibration Time(s): 1541 1945

LAB FILE ID:	RRF2: HPID4603 RRF20: HPID4598	RRF5: HPID4600 RRF40: HPID4597	RRF10: HPID4599		
COMPOUND	RRF2	RRF5	RRF10	RRF20	RRF40
TBA **					
MTBE	59195	62331	62788	60750	51101
DIPE	65041	68039	68537	66731	60224
Benzene	131253	136585	137918	133507	119157
Toluene	139842	143203	146292	142047	127715
Chlorobenzene	160616	167493	171462	168619	151491
Ethylbenzene	132768	140278	145118	141314	126895
Xylene (Total)	147866	155434	159525	155199	140867
1,3-Dichlorobenzene	139182	144918	148127	149530	137669
1,4-Dichlorobenzene	131333	141718	143942	145731	135694
1,2-Dichlorobenzene	111601	118328	120190	121476	114490
Naphthalene	74741	87716	83583	92032	94487
a,a,a-Trifluorotoluene(sur)	31925	33681	32453	33082	32282

\*\* TBA Calibration Levels are RF200, RF400, RF1000, and RF2000

## VOLATILE ORGANICS INITIAL CALIBRATION DATA

Instrument ID: VOAGC2

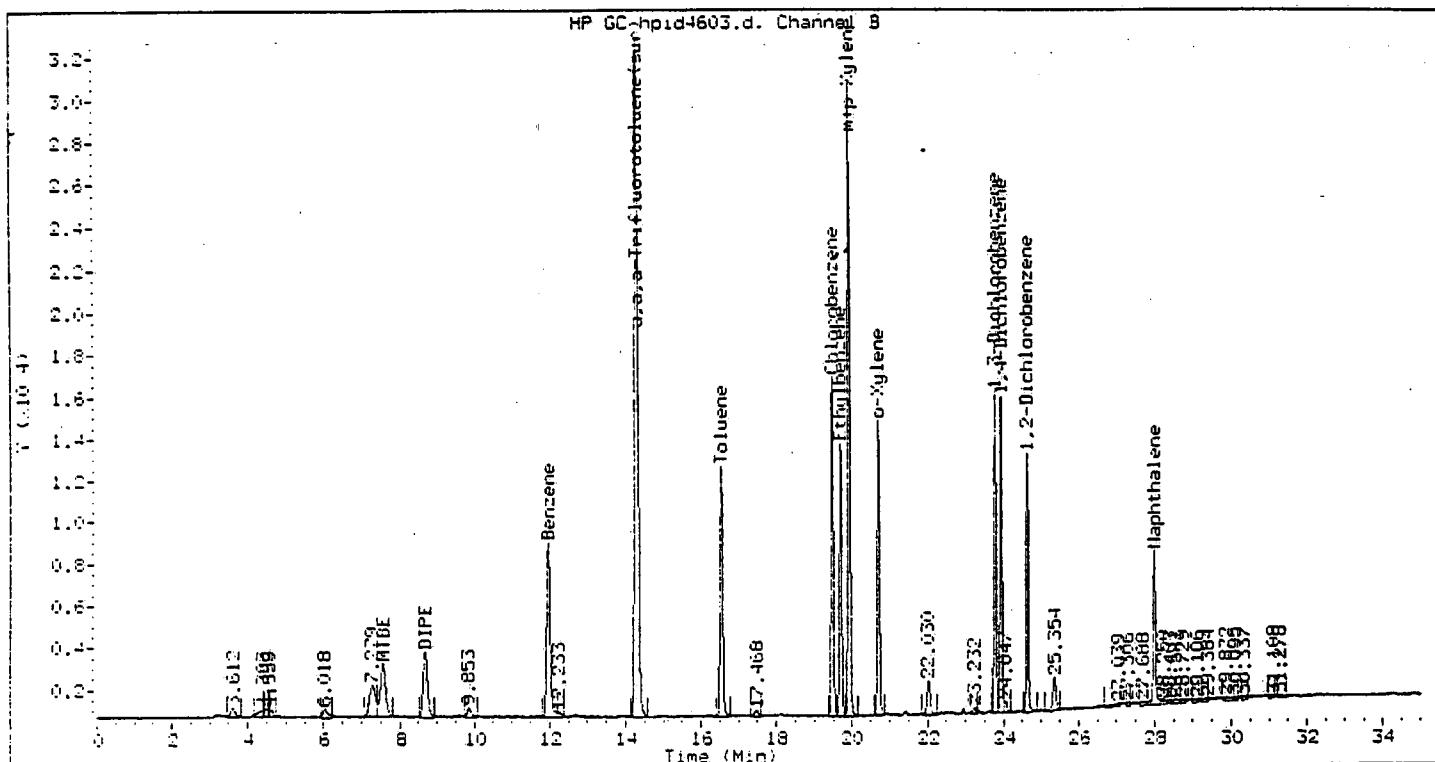
Calibration Date(s): 01/23/01 01/23/01

Calibration Time(s): 1541 1945

COMPOUND	CURVE	COEFFICIENT A1	%RSD OR R^2
TBA **	AVRG		
MTBE	AVRG	59233	8.0*
DIPE	AVRG	65714	5.1*
Benzene	AVRG	131684	5.7*
Toluene	AVRG	139820	5.1*
Chlorobenzene	AVRG	163936	4.9*
Ethylbenzene	AVRG	137275	5.3*
Xylene (Total)	AVRG	151778	4.9*
1,3-Dichlorobenzene	AVRG	143885	3.7*
1,4-Dichlorobenzene	AVRG	139684	4.3*
1,2-Dichlorobenzene	AVRG	117217	3.5*
Naphthalene	AVRG	86512	9.0*
a,a,a-Trifluorotoluene(sur)	AVRG	32685	2.1*

\*\* TBA Calibration Levels are RF200, RF400, RF1000, and RF2000

\* Compounds with required maximum %RSD values.



Method : /chem/VOAGC2.i/602/01-23-01/23jan01.b/602\_00.m

Sample Infc : HSTD002

Lab ID : HSTD002

Inst ID : VCAGC2.i

Inj Date : 23-JAN-2001 19:45

Dil Factor : 1

Operator : SP

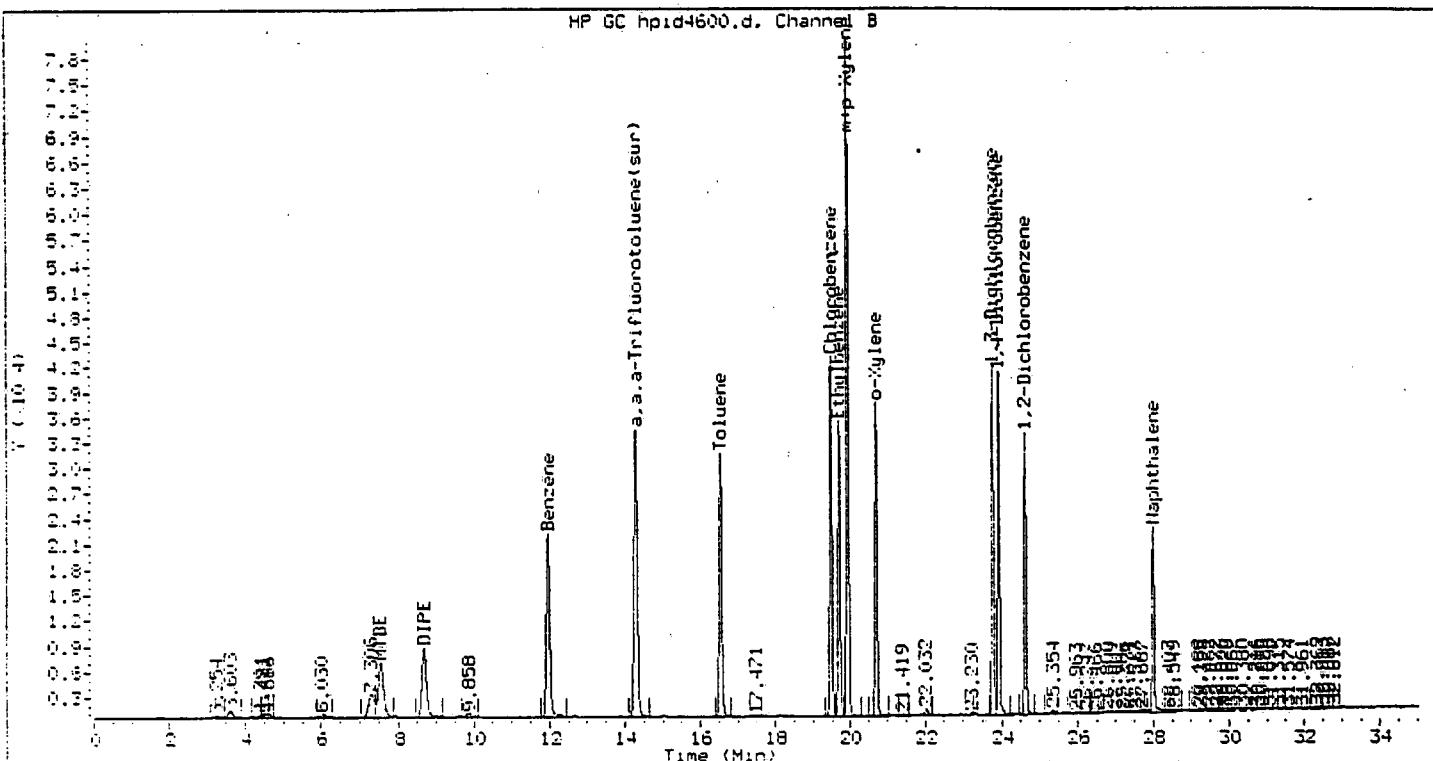
Sample Matrix : WATER

Cpnd Sublist: all

Sample Type: CALIB\_1

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS	
					(ug/L)	ON-COLUMN FINAL (ug/L)
o-Xylene	20.706	20.703	0.003	277285	1.949	1.949
m,p-Xylene	19.924	19.922	0.002	609914	3.896	3.896
MTBE	7.559	7.554	0.005	118390	1.999	1.999
DIPE	8.684	8.678	0.006	130082	1.979	1.979
Benzene	11.967	11.961	0.005	262506	1.993	1.993
Toluene	16.542	16.537	0.005	279683	2.000	2.000
Chlorobenzene	19.470	19.465	0.005	321231	1.959	1.959
Ethylbenzene	19.693	19.688	0.005	265537	1.934	1.934
Xylene (Total)	25.019	25.019	0.000	887199	5.845	5.845

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS	
					ON-COLUMN (ug/L)	FINAL (ug/L)
1,2-Dichlorobenzene	23.773	23.769	0.004	278363	1.935	1.935
1,4-Dichlorobenzene	23.931	23.927	0.004	262668	1.880	1.880
1,2-Dichlorobenzene	24.622	24.617	0.004	223202	1.904	1.904
Naphthalene	27.999	27.996	0.003	149482	1.728	1.728
a,a,a-Trifluorotoluene(sur)	14.294	14.289	0.005	957756	29.303	29.303



Method : /chem/VOAGC2.i/602/01-23-01/23jan01.b/602\_00.m

Sample Info : HSTD005

Lab ID : HSTD005

Inst ID : VOAGC2.i

Inj Date : 23-JAN-2001 17:43

Dil Factor : 1

Operator : SP

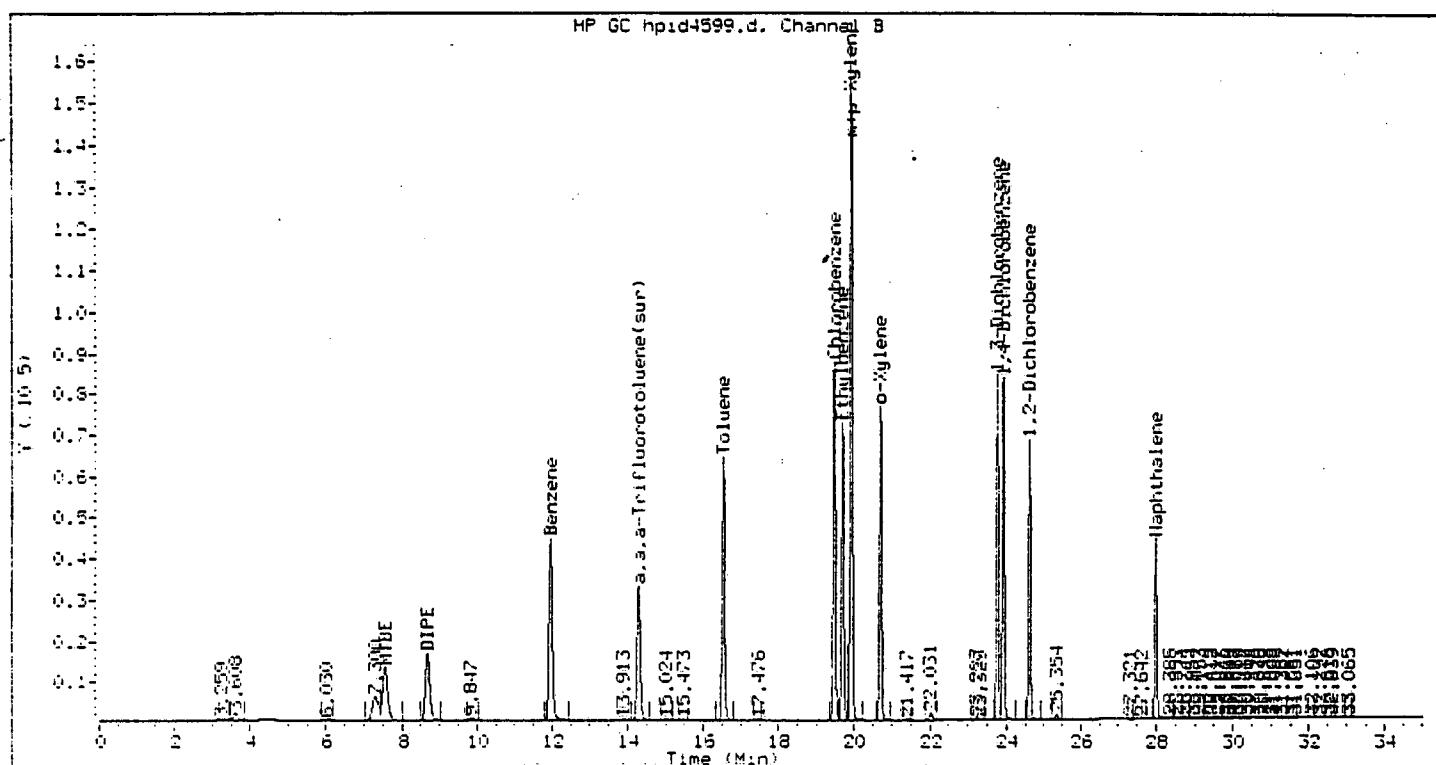
Sample Matrix : WATER

Cpnd Sublist: all

Sample Type: CALIB\_2

Compounds	RT	EXP RT	DLT RT	CONCENTRATIONS		
				ON-COLUMN	FINAL	(ug/L)
o-Xylene	20.704	20.703	0.001	723543	5.086	5.086
m+p-Xylene	19.923	19.922	0.001	1607960	10.272	10.272
MTBE	7.555	7.554	0.001	311656	5.262	5.262
DIPE	8.680	8.678	0.002	340195	5.177	5.177
Benzene	11.964	11.961	0.002	682923	5.186	5.186
Toluene	16.539	16.537	0.003	716013	5.121	5.121
Chlorobenzene	19.468	19.465	0.003	837465	5.108	5.108
Ethylbenzene	19.690	19.688	0.002	701391	5.109	5.109
Xylene (Total)	25.019	25.019	0.000	2331503	15.361	15.361

Compounds	RT	EXP RT	DLT RT	CONCENTRATIONS		
				RESPONSE	ON-COLUMN (ug/L)	FINAL (ug/L)
1,3-Dichlorobenzene	23.769	23.769	0.001	724591	5.036	5.036
1,4-Dichlorobenzene	23.928	23.927	0.001	708591	5.073	5.073
1,2-Dichlorobenzene	24.619	24.617	0.001	591641	5.047	5.047
Naphthalene	27.997	27.996	0.001	438580	5.070	5.070
a,a,a-Trifluorotoluene(sur)	14.291	14.289	0.002	1010421	30.914	30.914



Method : /chem/VOAGC2.i/602/01-23-01/23jan01.b/602\_00.m

Sample Info : HSTD010

Lab ID : HSTD010

Inst ID : VOAGC2.i

Inj Date : 23-JAN-2001 17:02

Dil Factor : 1

Operator : SP

Sample Matrix : WATER

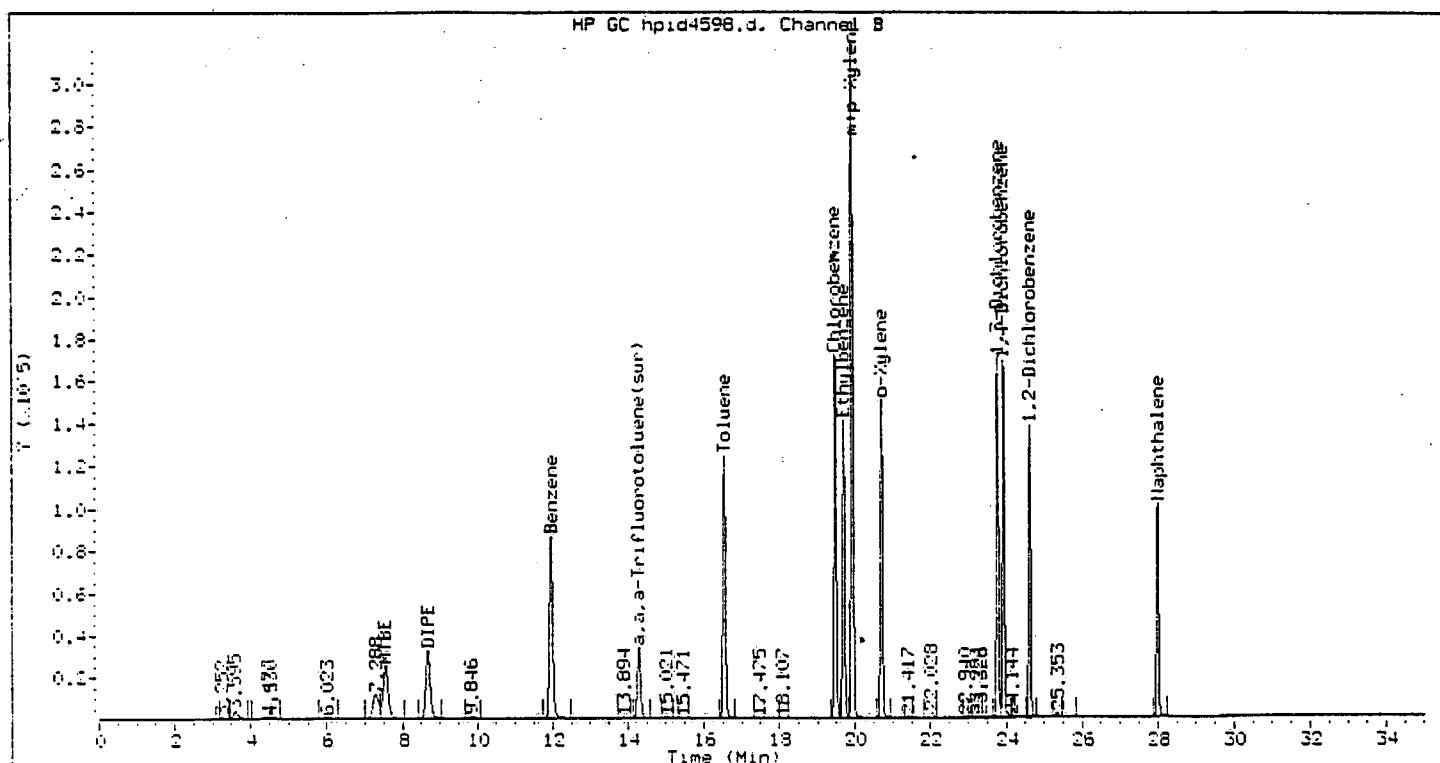
Cpnd Sublist: all

Sample Type: CALIB\_3

Compounds	CONCENTRATIONS					
	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	FINAL (ug/L)
o-Xylene	20.704	20.703	0.002	1478778	10.394	10.394
m,p-Xylene	19.923	19.922	0.002	3306960	21.126	21.126
MTBE	7.559	7.554	0.004	627883	10.600	10.600
DIPE	8.682	8.678	0.004	685374	10.430	10.430
Benzene	11.966	11.961	0.004	1379178	10.473	10.473
Toluene	16.540	16.537	0.004	1462916	10.463	10.463
Chlorobenzene	19.468	19.465	0.003	1714625	10.459	10.459
Ethylbenzene	19.690	19.688	0.003	1451180	10.571	10.571
Xylene (Total)	25.019	25.019	0.000	4785738	31.531	31.531

Report Date 03/12/2001 13:35

Compound	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS	
					CN-COLUMN (ug/L)	FINAL (ug/L)
1,3-Dichlorobenzene	23.770	23.769	0.001	1481270	10.295	10.295
1,4-Dichlorobenzene	23.929	23.927	0.001	1439413	10.305	10.305
1,2-Dichlorobenzene	24.620	24.617	0.003	1201896	10.254	10.254
Naphthalene	27.997	27.996	0.002	835832	9.661	9.661
a,a,a-Trifluorotoluene(sur)	14.293	14.289	0.004	973604	29.788	29.788



Method : /chem/VOAGC2.i/602/01-23-01/23jan01.b/602\_00.m

Sample Info : HSTD020

Lab ID : HSTD020

Inst ID : VOAGC2.i

Inj Date : 23-JAN-2001 16:21

Dil Factor : 1

Operator : SP

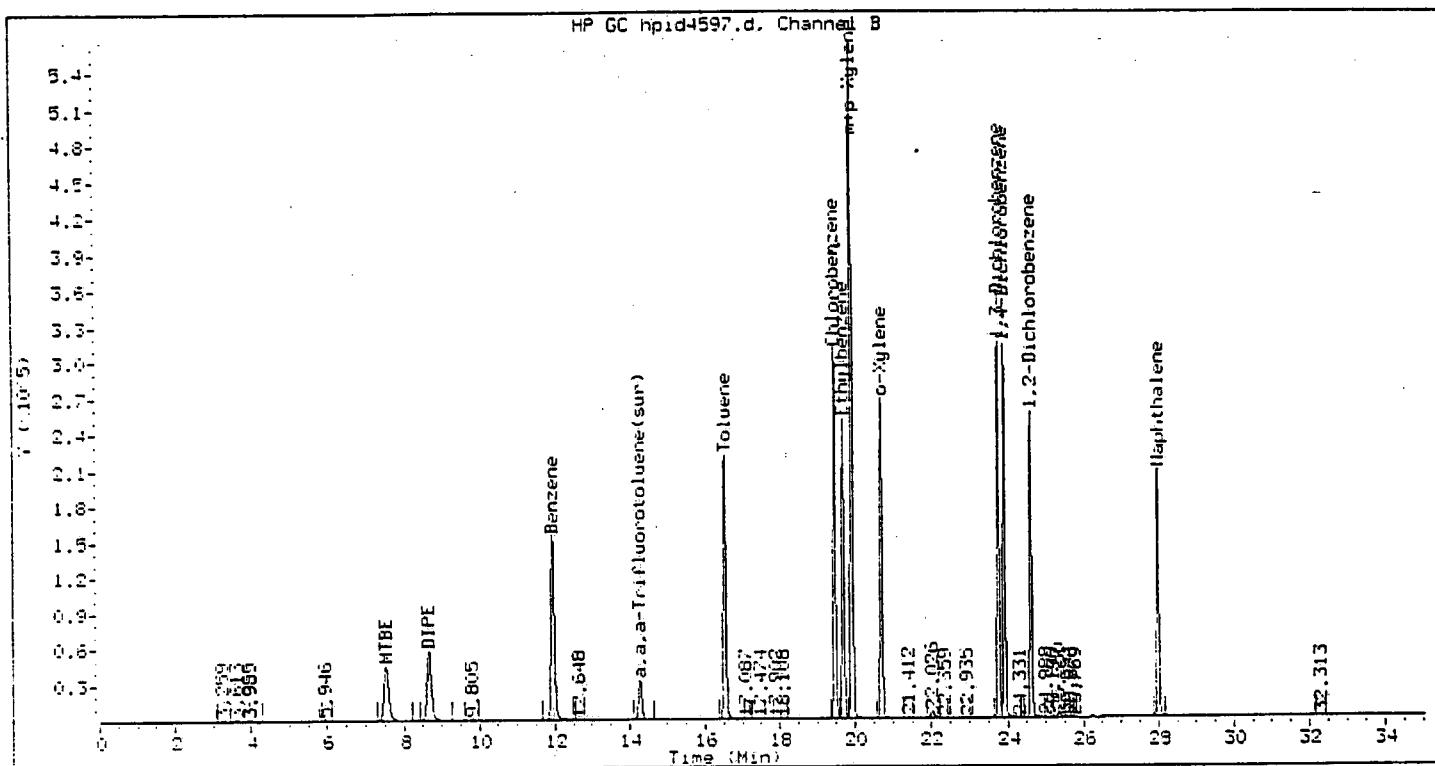
Sample Matrix : WATER

Cpnd Sublist: all

Sample Type: CALIB\_4

Compounds	CONCENTRATIONS					
	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ug/L)	FINAL (ug/L)
o-Xylene	20.703	20.703	0.000	2905277	20.421	20.421
m+p-Xylene	19.922	19.922	0.000	6406655	40.929	40.929
MTBE	7.554	7.554	0.000	1215010	20.512	20.512
DIPE	8.678	8.678	0.000	1334624	20.309	20.309
Benzene	11.961	11.961	0.000	2670133	20.277	20.277
Toluene	16.537	16.537	0.000	2840940	20.319	20.319
Chlorobenzene	19.465	19.465	0.000	3372378	20.571	20.571
Ethylbenzene	19.688	19.688	0.000	2826274	20.588	20.588
Xylene (Total)	25.019	25.019	0.000	9311932	61.352	61.352

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS	
					ON-COLUMN (ug/L)	FINAL (ug/L)
1,3-Dichlorobenzene	23.769	23.769	0.000	2990591	20.785	20.785
1,4-Dichlorobenzene	23.927	23.927	0.000	2914620	20.866	20.866
1,2-Dichlorobenzene	24.617	24.617	0.000	2429526	20.727	20.727
Naphthalene	27.996	27.996	0.000	1840650	21.276	21.276
a,a,a-Trifluorotoluene(sur)	14.289	14.289	0.000	992465	30.365	30.365



Method : /chem/VOAGC2.i/602/01-23-01/23jan01.b/602\_00.m

Sample Info : HSTD040

Inst ID : VOAGC2.i

Lab ID : HSTD040

Dil Factor : 1

Inj Date : 23-JAN-2001 15:41

Sample Matrix : WATER

Operator : SP

Sample Type: CALIB\_5

Compounds	CONCENTRATIONS					
	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	FINAL
o-Xylene	20.699	20.703	0.004	5394138	37.915	37.915
m,p-Xylene	19.918	19.922	0.004	11509905	73.530	73.530
MTBE	7.539	7.554	0.015	2044053	34.509	34.509
DIPE	8.664	8.678	0.014	2408971	36.658	36.658
Benzene	11.949	11.961	0.013	4766284	36.195	36.195
Toluene	16.532	16.537	0.005	5108617	36.537	36.537
Chlorobenzene	19.461	19.465	0.004	6059651	36.963	36.963
Ethylbenzene	19.684	19.688	0.004	5075794	36.975	36.975
Xylene (Total)	25.019	25.019	0.000	16904043	111.373	111.373

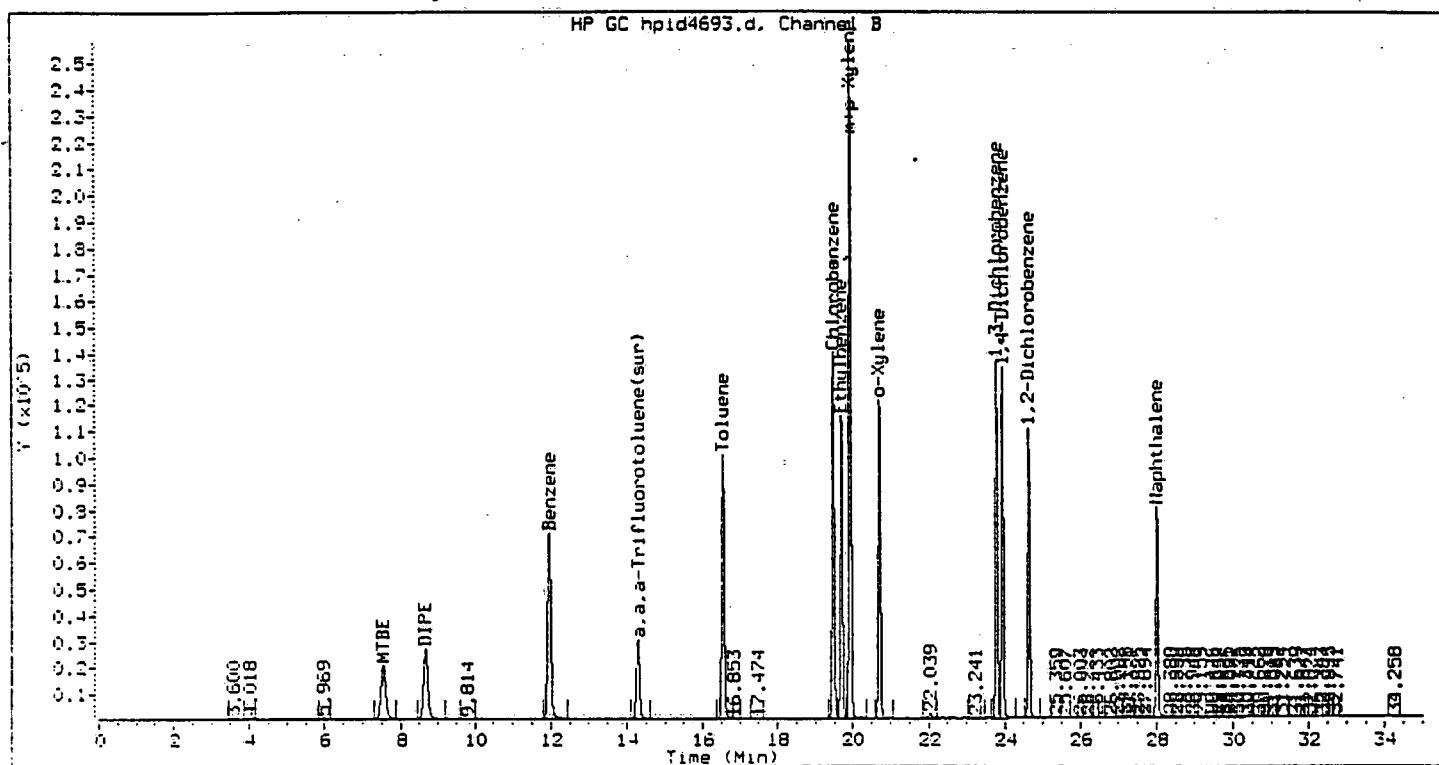
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS	
					ON-COLUMN (ug/L)	FINAL (ug/L)
1,3-Dichlorobenzene	23.766	23.769	0.003	5506779	38.272	38.272
1,4-Dichlorobenzene	23.924	23.927	0.003	5427771	38.858	38.858
1,2-Dichlorobenzene	24.615	24.617	0.002	4579616	39.070	39.070
Naphthalene	27.993	27.996	0.003	3779479	43.687	43.687
a,a,a-Trifluorotoluene(sur)	14.281	14.289	0.008	968450	29.630	29.630

## VOLATILE ORGANICS CONTINUING CALIBRATION CHECK

Instrument ID: VOAGC2      Calibration Date: 03/02/01      Time: 1240  
 Lab File ID: HPID4693      Init. Calib. Date(s): 01/23/01      01/23/01  
 Heated Purge: (Y/N) N      Init. Calib. Times:      1541      1945

COMPOUND	RRF	RRF20	MIN RRF	%D	MAX %D
TBA **				50.0	
MTBE	59233.26	45753.50		22.8	50.0
DIPE	65714.58	54898.05		16.4	50.0
Benzene	131683.83	108907.60		17.3	23.0
Toluene	139819.62	115349.70		17.5	22.5
Chlorobenzene	163936.24	136039.95		17.0	19.5
Ethylbenzene	137274.65	115310.05		16.0	37.0
Xylene (Total)	151778.10	126451.67		16.7	50.0
1,3-Dichlorobenzene	143885.15	119681.95		16.8	27.5
1,4-Dichlorobenzene	139683.66	116451.75		16.6	30.5
1,2-Dichlorobenzene	117217.10	98062.65		16.3	32.0
Naphthalene	86511.94	76653.50		11.4	50.0
a,a,a-Trifluorotoluene(sur)	32684.64	29522.80		9.7	20.0

\*\* TBA Continuing Calibration Level is RF2000.



Method : /chem/VOAGC2.i/602/01-23-01/02mar01.b/602\_00.m

Sample Info : HSTD020

Lab ID : HSTD020

Inj Date : 02-MAR-2001 12:40

Operator : SP

Cond Sublist: all

Inst ID : VOAGC2.i

Dil Factor : 1

Sample Matrix : WATER

Sample Type: CCALIB\_4

CONCENTRATIONS

ON-COLUMN FINAL

Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
o-Xylene	20.710	20.710	0.000	2357449	16.570	16.570
m,p-Xylene	19.927	19.927	0.000	5229651	33.409	33.409
MTBE	7.547	7.547	0.000	915070	15.449	15.449
DIPE	8.672	8.672	0.000	1097961	16.708	16.708
Benzene	11.958	11.958	0.000	2178152	16.541	16.541
Toluene	16.539	16.539	0.000	2306994	16.500	16.500
Chlorobenzene	19.471	19.471	0.000	2720799	16.597	16.597
Ethylbenzene	19.694	19.694	0.000	2306201	16.800	16.800
Xylene (Total)	25.019	25.019	0.000	7587100	49.988	49.988

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCSNTRATIONS	
					ON-COLUMN (ug/L)	FINAL (ug/L)
1,3-Dichlorobenzene	23.779	23.779	0.000	2393639	16.636	16.636
1,4-Dichlorobenzene	23.938	23.938	0.000	2329035	16.674	16.674
1,2-Dichlorobenzene	24.629	24.629	0.000	1961253	16.732	16.732
Naphthalene	28.011	28.011	0.000	1533070	17.721	17.721
a,a,a-Trifluorotoluene(sur)	14.290	14.290	0.000	885684	27.098	27.098

## VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Matrix: WATER

Level: LOW

Lab Job No: I524

	LAB SAMPLE NO.	SMC1 #	SMC2 #	OTHER	TOT OUT
01	HG061	112			0
02	260046	110			0
03	260047	112			0
04	260048	89			0
05	260049	96			0
06	260050	102			0
07	260051	105			0
08	260051MS	104			0
09	260051MSD	104			0
10	260052	84			0
11	260053	93			0
12	260054	95			0
13	260055	90			0
14	260057	85			0
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

## QC LIMITS

SMC1 = a,a,a-Trifluorotoluene (72-122)

# Column to be used to flag recovery values

\* Values outside of contract required QC limits

D System Monitoring Compound diluted out

VOLATILE SPIKE RECOVERY SUMMARY  
METHOD 602

Matrix: WATER

Matrix Spike - Lab Sample No.: 260051

Level: LOW

MS Sample from Lab Job No: I524

QA Batch: 7151

Compound	MS % REC.	BS % REC.	LIMITS
Benzene	82	75	39-150
Toluene	85	80	46-148
Chlorobenzene	88	80	55-135
Ethylbenzene	85	80	32-160
1,3-Dichlorobenzene	85	80	50-141
1,4-Dichlorobenzene	85	80	42-143
1,2-Dichlorobenzene	82	80	37-154

\* Values outside of QC limits

Spike Recovery: 0 out of 14 outside limits

COMMENTS: \_\_\_\_\_

VOLATILE SPIKE RECOVERY SUMMARY  
METHOD 602

Matrix: WATER

Matrix Spike - Lab Sample No.: 261278

Level: LOW

MS Sample from Lab Job No: I731

QA Batch: 7152

Compound	MS % REC.	BS % REC.	LIMITS
Benzene	60	80	39-150
Toluene	76	80	46-148
Chlorobenzene	85	85	55-135
Ethylbenzene	84	85	32-160
1,3-Dichlorobenzene	76	85	50-141
1,4-Dichlorobenzene	68	80	42-143
1,2-Dichlorobenzene	85	80	37-154

\* Values outside of QC limits

Spike Recovery: 0 out of 14 outside limits

COMMENTS: \_\_\_\_\_

